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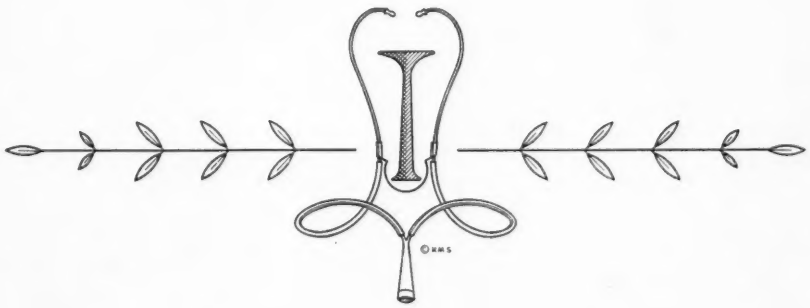

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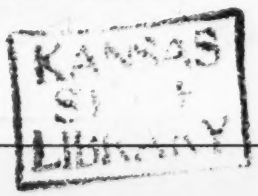

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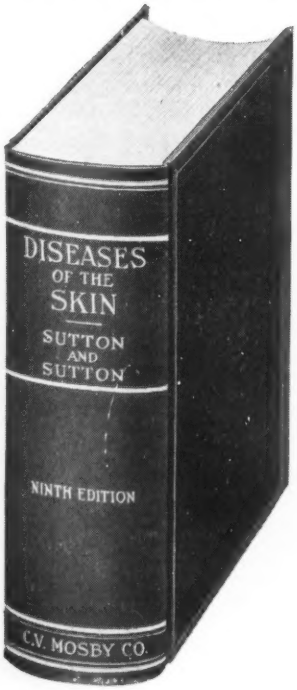

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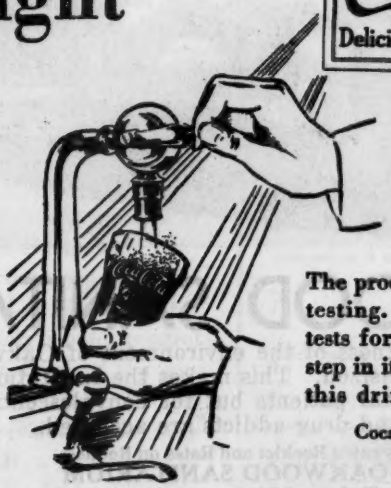

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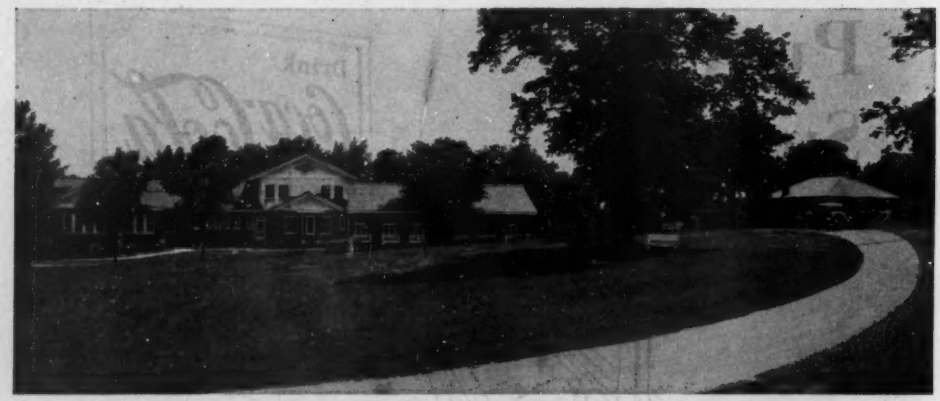

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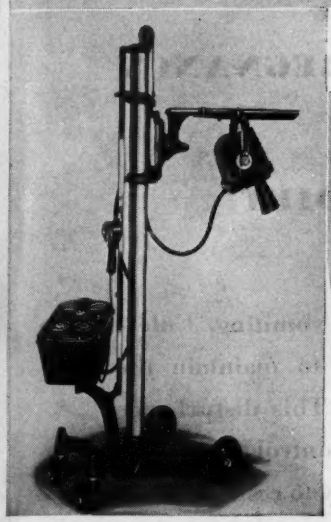

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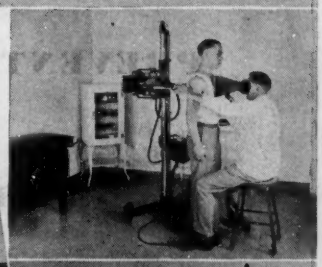

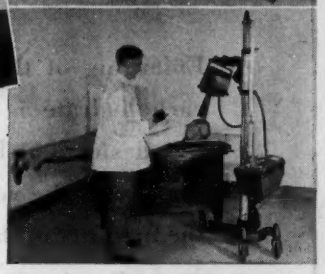

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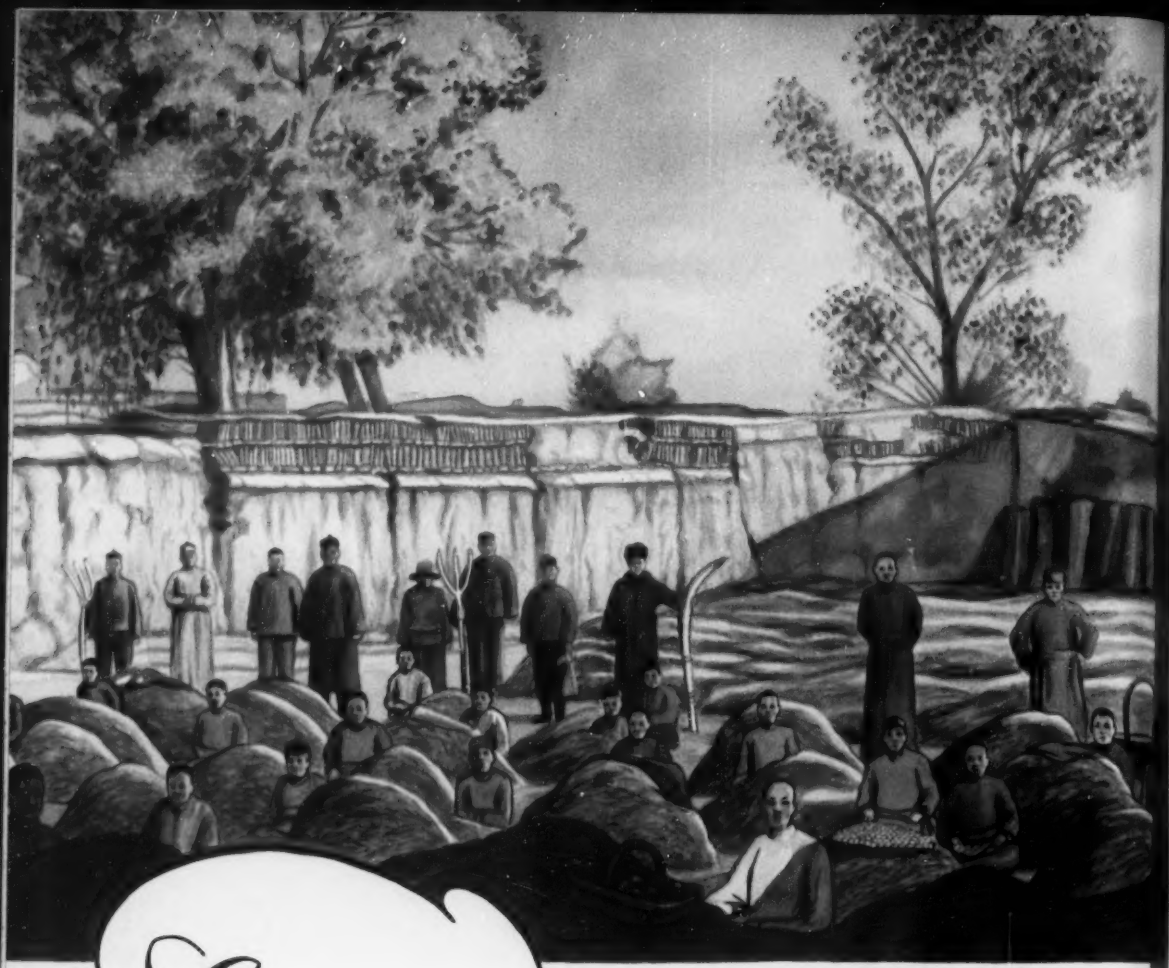

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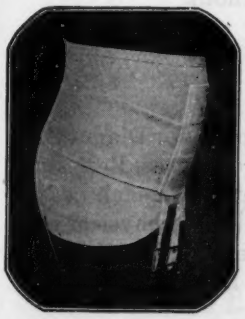

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Raw materials are given a thorough water cleansing, usually by washing under high pressure sprays.

Preparatory Operations

Following washing, undesirable stock is removed by sorting, trimming, peeling and coring operations, as occasion may demand. With some products these operations are performed mechanically.

Blanching

Certain products are "blanched" or scalded by immersion in hot water. This process serves not only to clean the product further, but also to soften the tissues and expel air therefrom.

Preheating and Filling Operations

Here practice varies with the product. Sometimes the food is precooked and filled into cans; again, it may be filled into cans and hot water or hot salt and/or sugar solutions added; still again, the filled cans are "exhausted" in a steam or hot water box. All these operations, the majority of which are mechanically performed, serve to preheat the product and exclude air from the cans.

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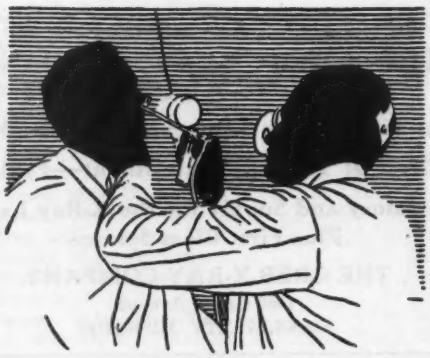

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PARTIAL GASTRECTOMY IN THE TREATMENT OF GASTRIC ULCER AND CANCER*

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Topeka, Kansas

My purpose in presenting this subject is simply to call attention to the difficulties of making a definite diagnosis in ulcerating lesions of the stomach, and to give some experiences in the removal of a portion of the stomach in the treatment of these lesions.

Over two per cent of all deaths are caused by cancer of the stomach, so it is an organ particularly susceptible to malignancy. Sixty per-cent of all cancers affect the stomach, breast or uterus, and of this group nearly half occur in the stomach. In this great group of cancer of the stomach, half will be inoperable when seen by the surgeon, and the other half will be subjected to exploratory operation. Of this latter group about one third will be suitable for resection, so only a fraction of the whole number will be given a chance for a cure. Cancer of the stomach untreated is always fatal, and surgery is the only means that so far has effected cures. Balfour reports 128 ten-year cures on patients operated between 1910 and 1920, which is twenty per cent of the cases subjected to gastrectomy.

When the growth lies on the upper part of the lesser curvature or in the fundus, removal may be impossible due to the fact that the region is not easily accessible to the surgeon. Growths on the greater curvature, even if high up, are more easily removed, and give a better prospect of cure. The unfortunate feature of the pyloric antrum growth is that lymphatic extension occurs early here. Cancer of the body of the stomach is most favorable for complete cure, due to easy removal of lymphatics and a lower surgical mortality. Ulcers in the pyloric region and on the greater curvature should be regarded with the greatest concern since cancer is most common in those locations.

Delays in diagnosis frequently are due to the nature of the disease as much as to the physician who sees the case. In a given group the average age will be fifty-two years, dyspepsia will have existed at least a year, sixteen per cent will have had bleeding, there will be a moderate anemia, over ninety per cent will have some loss of weight, and gastric analysis will surprise most of us, for fifty per cent of the operable cases will have nearly the normal amount of free hydrochloric acid in the gastric contents. Symptoms may be lacking or unnoticed in the early stages of the disease. It is absolutely necessary for these patients to be examined not once but several times by a good clinican and competent roentgenologist if a diagnosis can not be made at the first examination. We have all seen the type of case that has no previous gastric history, very little distress and yet may have an advanced carcinoma. These are cases of primary carcinoma.

When we consider the known relationship between gastric ulcer and gastric cancer, we have another approach to this problem. Pauchet reported finding carcinoma in fifteen per cent of 200 gastrectomies performed for ulcer, while Stewart and Chamberline each had fifteen per cent in a similar series. Wilensky and Thalheimer found that of stomach specimens received from operating room with a diagnosis of simple ulcer, 18.7 per cent were cancerous. A life insurance actuary has shown that the late mortality following similar operations is three times greater in stomach cases than in duodenal ulcers. In fact it is often impossible to distinguish a benign callous ulcer from carcinoma at the time of operation, and at times even microscopic examination does not do this. This is illustrated by cases I and III.

* Presented at the Ford County Medical Society, April Meeting, 1935.

The real problem is how the early ulcerating carcinoma of the stomach can be satisfactorily differentiated from a benign chronic ulcer by the physician. Every ulcerating lesion of stomach will have to be considered a potential malignancy until some more accurate means are available to differentiate the malignant lesion at a time when it can be removed successfully.

Medical authors should avoid such inclusive terms as "peptic ulcer," "gastro-duodenal ulcer," and also combined statistics on results, but rather should name the anatomical location of the lesion, as duodenal or gastric ulcer. The potentialities of the two toward secondary malignancy are absolutely different. Primary carcinoma of the duodenum is rare; carcinoma secondary to ulcer practically does not exist. Duodenal ulcer is primarily a medical disease and the indications for surgery are generally agreed upon, although there is still some difference of opinion in regard to the value of gastrectomy here. Gastric ulcer should be surgically removed in all cases that do not give an immediate and continuous response to treatment. It is quite possible for early ulcerating carcinoma to give a satisfactory but temporary symptomatic response to medical treatment. Hence a delay occurs which may be a serious detriment to the chance of successful surgery.

Dr. L. H. Landon in an article in the Annals of Surgery, says, "There is a certain group of ulcer cases in which we feel that one is justified in recommending a definitely limited, meticulously controlled trial of medical treatment. This is largely dependent upon the type and duration of symptoms and upon the site of the lesion. The longer the previous duration of typical symptoms, and the farther the ulcer from the pylorus, the safer is the advice. When closer to the pyloric ring, with but recent symptoms, and especially if accompanied by lowered acidity, regardless of the presence or absence of occult blood, the more hazardous becomes the delay in surgical exploration. The justification for the delay must depend upon the results obtained within a strictly limited period. If within two months there has not been a definite diminution of the size of the ulcer niche clearly demonstrable by x-ray, and the disappearance of occult blood by gastric analysis, medicine can no longer conscientiously assume the entire responsibility for the safety of the patient."

Patients who have not improved during the period of observation outlined above, should undoubtedly be subjected to surgery. Cases that improve should be watched for a year, and if there is recurrence of symptoms, enlargement of the ulcer, a return of occult blood, or a progressive low gastric acidity, the patient should be explored.

Regardless of any argument as to the relationship of ulcer to cancer, it has been demonstrated by Dr. Frank Lahey that gastric ulcers respond more readily to medical treatment than duodenal ulcers, and we are justified in assuming a lesion as potentially malignant that fails to improve under appropriate treatment. We are indebted to the Lahey Clinic for advocating and popularizing the test of malignancy by the trial of medical treatment.

We are reporting, with the end results, some cases on whom gastrectomy has been performed. The total mortality is high (two out of ten cases, or twenty per cent,) but we feel that no other operation was adequate to cure the conditions present, and that increased experience may lessen that mortality. It is noticeable that there is a higher post-operative morbidity and mortality in the cancer cases as compared to the benign ulcer group.

CASE REPORTS

Case 1. O. H. S. Sale, age sixty. Operation August 13, 1923. Operative Findings: A large perforating ulcer on the posterior wall of the stomach in its middle third, closed only by the adhesions to the posterior wall of the lesser sac. Operation: Partial gastrectomy, lower two-thirds of stomach, Billroth II. Pathological Report: Benign ulcer. Post Operative Course: Uneventful convalescence in the hospital. For about ten months he did very well, gaining some weight, doing his work on a farm, and eating a general diet. His only difficulty was vomiting from overeating, and was easily corrected by eating smaller meals. In July 1924 he began to go down hill, vomited frequently, and in September 1924 had some abdominal pain associated with difficulty in moving his bowels. This was at first relieved by enemas, but finally went on to a complete obstruction, for which a colostomy was done on October 11, 1924. Exploration at this time revealed widespread cancer.

Case 2. C. A. J. Male, age sixty-five. Operation July 21, 1924. Operative Findings: Obstructing carcinoma at pylorus. Operation:

Billroth II partial gastrectomy. Pathological Report: Carcinoma of stomach. Post Operative Course: Did well until fifth post-operative day, when he suddenly became weak, vomited small quantities, and died eighteen hours later. Autopsy was refused. Cause of death was probably embolism.

Case 3. J. P. G. Male age fifty-nine. Operation November 29, 1926. Operative Findings: Callous ulcer on upper anterior aspect of pylorus; some enlarged lymph nodes; duodenum normal. Operation: Partial gastrectomy, Billroth I, with posterior gastrojejunostomy; appendectomy. Pathological Report: Benign ulcer. Post-Operative Course: Uneventful convalescence except for superficial wound infection. When seen six months later, he had gained four pounds, but there was apparently a rectal shelf forming. He got along fairly well, and was able to work for five years, when he developed symptoms of general carcinomatosis. He died in 1933 with extensive skeletal metastases in the pelvis, femurs, and arm bones.

Case 4. W. W. L. Male age fifty-three. Operation November 11, 1929. Operative Findings: Anterior and posterior kissing ulcers in prepyloric area of stomach, the posterior ulcer having perforated into the pancreas. Operation: Partial Gastrectomy, Billroth II, resecting three inches of stomach, including pyloric ring. Pathological Report: Benign ulcer. Post Operative Course: Uneventful convalescence. Had gained twenty pounds in two months. No gastric distress. In 1934 he was feeling well, and had worked steadily since operation.

Case 5. E. H. P. Male, age fifty-four. Operation March 11, 1930. Operative Findings: Gastric ulcer on posterior wall near the pylorus perforating into the pancreas. Operation: Partial gastrectomy, Billroth II, lower one-third of stomach. Pathological Report: Benign ulcer. Post-Operative Course: Uneventful post-operative convalescense in hospital. He had gained eighteen pounds in the next two months. In 1932 he was reported by his local doctor to be in excellent health. In 1935 he had a gastric hemorrhage from which he recovered under medical treatment. Gastrointestinal x-ray at this time showed no evidence of ulcer.

Case 6. C. D. I. Male, age forty-nine. Operation November 18, 1933. Operative Findings: Scar at pylorus with deformity. About two inches above the pylorus, on the lesser curvature, was a chronic ulcer with crater 1 cm. in diameter. Operation: Partial gastrectomy, Billroth II, lower three inches of stomach, including pyloric ring. Pathological Report: Benign ulcer. Post-Operative Course: Had parotitis, and mild wound infection but left the hospital in good condition. Six months later he was eating any foods he desired, with no distress or vomiting. He had gained thirty pounds weight.

Case 7. A. S. Female, age sixty-seven. Operation March 17, 1934. Operative Findings: Fungating carcinoma, about two by three inches, on greater curvature, a short distance above pylorus. Operation: Billroth II, partial gastrectomy, removing two-thirds of stomach. Pathological Report: Carcinoma of stomach. Post Operative Course: Began vomiting on the second day post-operatively, and continued to vomit everything she took by mouth. She was kept on intravenous fluids. As there was no improvement by the ninth day, the abdomen was explored under local anesthesia. No mechanical obstruction was found, but there was a peritonitis throughout the upper abdomen. She continued to vomit, and an enterostomy was done a few days later. This drained watery fluid at first, then more fecal material, and finally a fluid that was digesting the wound edges. On the thirteenth day she developed a left sided parotitis, which subsided spontaneously after about ten days. She was carried on intravenous fluids until April 13, her twenty-seventh p.o. day, when she first began to retain anything and to improve slightly. She was given a transfusion on April 19, but soon afterwards began to slip, and rapidly went down hill, and died on her thirty-eighth post-operative day. Autopsy revealed peritonitis, nephritis, and fatty degeneration of the liver as cause of death. There was no gross or microscopic evidence of cancer in the remainder of the stomach or other organs.

Case 8. L. B. Male, age sixty-eight. Operation June 7, 1934. Operative Findings: Fungating carcinoma at pylorus, about two inches in diameter, and almost completely obstructing the pyloric opening. Operation: Partial gastrectomy, Billroth II, distal one-half stomach. Pathological Report: Carcinoma of stomach. Post-Operative Course: Convalescence was completed only by a right sided parotitis, which did not require drainage. On March 29, 1935 he had gained thirty pounds

weight, was eating well, and getting along on three meals a day. His only distress was when he would eat eoo much. He vomited occasionally, when "bile backs up into his stomach." He felt well, and examination was negative for any recurrence. His local physician reported him as being well early in December, 1935.

Case 9. R. M. Male, age sixty-six. Operation August 20, 1935. Operative Findings: Carcinomatous growth of lower two and one-half inches of stomach, ending abruptly at the pylorus. The growth completely encircled the wall, except at the lesser curvature. There was one small nodule near the medial fissure of the liver which may have been a metastasis. Operation: Billroth I partial gastrectomy, lower one-third of stomach. Pathological Report: Adeno-carcinoma of stomach, grade IV. Post Operative Course: Convalescence was complicated by bronchitis, and some vomiting which was relieved by gastric lavage. Three months after discharge he felt well and had gained twelve pounds weight.

Case 10. W. T. B. Male, age seventy-one. Operation November 16, 1935. Operative Findings: Ulcerating carcinoma of pylorus, encroaching on duodenum. The ulcer was nearly perforated posteriorly, causing a localized peritonitis. Operation: Partial gastrectomy and duodenectomy, Billroth II. Pathological Report: Adeno-carcinoma, grade IV. Post-Operative Course: His course was complicated by an infected wound, but he is at present making a satisfactory recovery.

SUMMARY

Attention is called to the difficulty of differentiating malignant and benign ulcerations of the stomach, and the value of the test of treatment. Brief reports of ten cases operated for ulcerating lesions of the stomach by gastrectomy are presented.

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—JKMS—

What is spoken of as a clinical picture is not just a photograph of a man sick in bed; it is an impressionistic painting of the patient surrounded by his home, his work, his relations, his friends, his joys, sorrows, hopes and fears.—Francis W. Peabody.

—JKMS—

He who has wealth, has hope; and he who has hope, has everything.—Arabian Proverb.

—JKMS—

Where there is love of humanity, there also is love for the art of medicine.—Hippocrates.

CARCINOMA OF THE SKIN

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Carcinomas of the skin are generally divided into two classes, namely: 1. Basal-cell carcinoma (rodent ulcer); 2. Squamous cell carcinoma.

Occasionally a carcinoma of the skin contains both basal and squamous cells, consequently some authorities call this a third class, the basal-squamous type. Such a basal-squamous cell lesion may, at any time, change into a true squamous carcinoma.

Usually the clinical diagnosis of epithelioma of the skin is comparatively easy. Tuberculous ulcers and syphilitic lesions must be differentiated and excluded by history, examination with eye and finger, biopsy and blood serum. A biopsy is often the only means of differentiating between a basal and squamous cell carcinoma.

The basal-cell variety of skin carcinoma is the most frequently encountered. It is more common among people who lead an outdoor life, such as farmers. Skins which are harsh and dry, which have a tendency to freckle, and which do not tolerate a "tan" well are more apt to undergo malignant changes. The condition is very uncommon among Chinese and negroes.

The basal-cell carcinoma may be seen as a cutaneous nodule with ulceration, which may be superficial or deep. In some cases there may be no evidence of the tissues breaking down. In others the lesion may be a more or less smooth scar-like area with a shiny, waxy surface, and a distinct border.

This type of malignancy ordinarily develops slowly and usually does not metastasize but has a great tendency "to invade and destroy" the deeper tissues such as bone and cartilage. If not completely removed the basal-cell carcinoma shows a great tendency to recur. Histologically the basal-cell carcinoma shows a preponderance of basal-cell tissue and is made up of groups of small, closely packed cells with deep nuclear stains resembling the basal-cell layer of the skin.

The squamous-cell carcinoma is somewhat less common than the basal-cell type. Carcinoma of the lower lip, edges of nostrils, eyelids, penis, vulva and anus are practically always of the squamous cell type, and those on the trunk

*Axtell Clinic

and extremities, especially on the dorsum of hands, are usually of the same kind. Those found on the skin of the face are more often of the basal-cell type. Keratoses are often considered as precancerous lesions, but sometimes they no doubt are malignant from the very beginning. "It is believed that the senile keratosis is a forerunner of the squamous cell carcinoma while the seborrheic keratosis, if it becomes malignant, usually develops into a basal-cell carcinoma." (Ericksen and Stenstrom.) The squamous cell carcinoma indurates and ulcerates and metastasizes relatively early; therefore the prognosis and treatment are less favorable than with the basal-cell lesion.

Histologically the squamous-cell epithelioma is characterized by groups of epithelial cells, growing in a diffuse and infiltrating manner with formation of pearls. The growth is indefinitely separated from the normal tissue; cells grow out irregularly at various points pushing their way into the surrounding normal tissue.

The prognosis of any skin carcinoma "depends on the histology of the tumor, the extent of the growth, the character of the stroma, the amount and nature of previous therapy, the location of the tumor and the constitution of the patient." In other words the prognosis depends largely upon the stage of the lesion at which proper treatment is begun.

TREATMENT

In the Hall of Science at the Century of Progress in Chicago in 1933, the American Society for the Control of Cancer had a very interesting as well as practical exhibit on cancer, in which, among other things, it told the public that the only satisfactory treatment of cancer was x-ray, radium or surgery, or a combination of any two or all three methods. The importance of early diagnosis was also emphasized. The above statement is true in regard to treatment of cancer as a whole. Skin cancer may also be treated by means of x-ray, radium or surgery (including electric cautery and electrocoagulation), or a combination of two or three methods. However, irradiation is easily applied, more effective, and has better cosmetic results than surgery. Although cosmetic effect is only a secondary matter, it should be given due consideration when possible because most of these lesions are in or about the face. In regard to irradiation there is probably very little difference between the results of roentgen rays and radium. The selection of one or the other is largely a matter of convenience, except in extensive lesions, especially in case of metastases, x-ray can cover a larger area more easily. However, because areas covered in treatment of skin cancer are usually not extensive but small, the use of radium is more convenient and practical and is more accurately controlled. Its application may be made to a very small lesion as well as to a larger one. Locations about the eyes and nose may be inaccessible with the roentgen ray where radium may be applied easily. Radium may be applied to the skin lesion without any discomfort to the patient whatever. However, no one method of treatment should be considered as a routine; the means should be varied to meet the condition.

I have employed radium more often in the treatment of carcinoma of the skin than the other above mentioned methods and in my experience it has proved very satisfactory. In order that radium treatment of skin cancer be successful, the application or applications must be adequate to destroy the lesion completely with the least interference with the surrounding normal tissue. Inadequate treatment is often worse than useless because it increases the resistance to further treatment. The importance of adequate dosage early in the treatment is to be emphasized. "The fundamental principle is to estimate the dose sufficient to bring about the death of all the malignant cells without impairing the vitality of the surrounding normal tissue, so that healing may take place satisfactorily." (Roy Ward.) Acute infectious lesions are a definite contraindiction to radium treatment. In such instances the acute stage of the infection should be allowed to subside before the radium treatment is instituted.

The effectiveness of the treatment depends upon the nature of the tissue treated, the amount of radium and, screening or filter used, distance between radium and the tissue, and the length of time that it is applied. The squamous-cell growth requires a heavier and more penetrating radiation than the basal-cell type.

Following are a few brief case reports as examples of several common locations of skin cancer.

CASE 1

J. W. was first seen in January, 1931, giving the following history. For the previous two years the patient had noticed a hard growth on the left side of the lower lip, beginning as a small wart-like lesion at the muco-cutaneous

FIG. 1—A

FIG. 1—B

FIG. 2—A

FIG. 2—B

FIG. 3—A

FIG. 3—B

FIG. 4—A

FIG. 4—B

FIG. 5—A

FIG. 5—B

Fig. 1–A, 2–A, 3–A, 4–A, and 5–A before Treatment.

Fig. 1–B, 2–B, 3–B, 4–B, and 5–B after Treatment.

junction, and gradually increasing in size and extent until at that time the lesion involved all of the left half and part of the right side of the lower lip. The edges were very much indurated and the surface about four centimeters by two centimeters. Snagged lower teeth were irritating the lesion. There was no apparent enlargement of the glands of the neck.

The teeth were removed by the dentist. He was given several applications of radium to the lower lip and the neck, totaling 2,558 millicuries. A biopsy was reported squamous cell carcinoma. This patient also had a four plus blood Wassermann and was given antiluetic treatment at the same time. After the lesion had decreased considerably in size, there was still considerable sloughing and ulceration, and it was thought best to remove this tissue with the electric cautery. The cauterized surface healed satisfactorily. The patient had a very good functional result and his lower lip remained healed. He was in good physical condition without evidence of recurrence or metastasis up to two years later when he died of accidental death.

CASE 2

G. P. had a lesion of the left lower lip removed surgically ten years ago. At this time the scar looked good and showed no evidence of recurrence. About three and a half years ago he had an ulcerating lesion on the right lower lip which had started about nine months before. At intervals it had shown a tendency toward healing but never did heal. This lesion was treated with radium, healed very satisfactorily, and has remained well healed after a period of three and a half years.

CASE 3

Mrs. J. A. B. was seen with an irregular lesion on the right forehead beginning ten years before. During these ten years it had been treated at various times with electric needles and lamps, showing tendency toward healing intermittently but never healing completely. One radium application healed this lesion satisfactorily, and it has remained well for four years.

CASE 4

J. S. states that the lesion on the tip of his nose began five years ago as a little pimple but was not red or tender. It gradually increased in size, the surface scaling and scabbing and later ulcerating. Two applications of radium have cleared up the lesion, leaving a well healed scar.

CASE 5

D. G. stated that a small lesion on the left frontal region of the scalp began as a small rough and scaly area eight months before. At the time the patient presented himself it was about half a centimeter in diameter. He said that the lesion would scab and scale off, appeared as though it were going to heal, but became worse again until it had a crusting scab with an ulcerating base. The photograph shows the well healed surface with minimum scarring.

This stage is an opportune time to treat these lesions, requiring only a small amount of treatment and resulting in a minimal scarring with very satisfactory cosmetic appearances and always one hundred per cent cure if such lesions are treated early. It is well to remember that cancer always begins in a small way. The success of treatment of skin carinoma no doubt is due to the advantage that the lesion is on the surface where it may be readily detected by the patient. It is therefore usually brought to the attention of the physician, usually the family physician, in time to be cured. It is equally important that the physician recognize such growth and advise treatment early at which time practically a hundred per cent cure may be affected. Early diagnosis and proper treatment will cure cancer.

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—JKMS—

Physicians, when the cause of disease is discovered, consider that the cure is discovered.—*Cicero.*

—JKMS—

Nature always hangs out a little flag, which when seen and understood points to the diagnosis.—*J. B. DeLee.*

AN AORTIC ARCH WITH ANOMALOUS BRANCHES

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Anomalous arteries are interesting to the anatomist as illustrating a persistent fetal condition, or an unusual development due to unusual size or connections. An unusual condition in man sometimes illustrates the normal condition found in some of the lower animals. To the surgeon, some of these anomalies are important in various surgical procedures. The anomaly here described is, we believe, interesting to both groups. It has been found previously but it is rare and we believe that this case is worthy of record. According to the excellent study of the earliest descriptions of an anomalous right subclavian artery by Holzapfel ('99), the first description of a human aortic arch with three branches similar to the case here reported was by Hunauld in 1735. In this case described by Hunauld, the anomalous right subclavian artery passed in front of the trachea and esophagus instead of between the esophagus and the vertebral column as in our specimen. The earliest case in which an anomalous right subclavian artery was recorded as passing between the esophagus and the vertebrae was by Böhmer in 1741. In this case, however, the aortic arch had four branches, namely a right common carotid, left common carotid, left subclavian and the anomalous right subclavian. Holzapfel found but six cases in the literature with the anomalous right subclavian artery passing in front of the trachea and esophagus, while in eighty per cent of all cases the anomalous right subclavian passed between the esophagus and the vertebral column as it was found in the present cadaver. Poynter ('16) gives a good bibliography of the various anomalous branchings of the human aortic arch and no attempt will be made in this report to list all of the cases.

The cadaver in which this unusual branching was found was that of a white male about seventy years of age. He died in a county hospital in this state and nothing is known about him except his name and the fact that he had been a gardner. The exact date of his birth is not known. The body was in good condition and upon arrival in our department it was given the usual treatment of further embalming, following which it was stored in our tanks for about fifteen months.

The cadaver was put on the laboratory table in September 1934 for dissection by freshman medical students. In the dissection of this body nothing unusual was observed, except the anomalous branching of the aortic arch, and two pathological kidneys. The heart and aortic arch were normal in size, position and relations, except for the branches. The upper border of the arch reached the level of the lower part of the body of the third thoracic vertebra.

The branching of this aortic arch conforms to the description of type H in the recent paper by Williams and Edmonds ('34.) The accompanying figure shows an anterior view of this aortic arch and its three rami. The first ramus was a bicarotid artery eighteen mm. in lateral diameter and a little less anteroposteriorly. It ascended for thirteen mm. and then divided into two normal common carotid arteries. The left common carotid artery was eight mm. in diameter and the right seven mm. in diameter. All of the branches of the arota had normal branching, and so none of these rami are shown in the figure. Immediately to the left of the bicarotid artery, a normal left subclavian artery was given off from the arch, and this was the only normal branch from this aortic arch. This left subclavian artery had a diameter of fourteen mm. close to its origin from the arch and eleven mm. just before it gave rise to the vertebral artery. To the left of the left subclavian artery and from the posterosuperior side of the aortic arch, the anomalous right subclavian artery arose. The aortic arch had a superior inferior diameter of thirty-six mm. From the inferior border of the anomalous right subclavian at its origin from the arch, to the inferior border of the arch was but thirteen mm. Thus the origin of this right subclavian occupied more than half of the posterior surface of the aortic arch, as it extended to within two millimeters of the superior border of the aorta. After leaving the aorta, this anomalous right subclavian artery, passed from the left side, posterior to both the trachea and the esophagus, obliquely upward and to the right side of the esophagus. After reaching the right side of the esophagus, it ascended for some distance and then turned to the right, and after reaching a point opposite the

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medial end of the clavicle it passed between the scalene muscles in a normal manner. From this point on, its course, relations and rami were all normal. As it passed posterior to the esophagus, it was wrapped around both the trachea and the esophagus so closely that it slightly constricted the esophagus, and the trachea was slightly deflected to the right side.

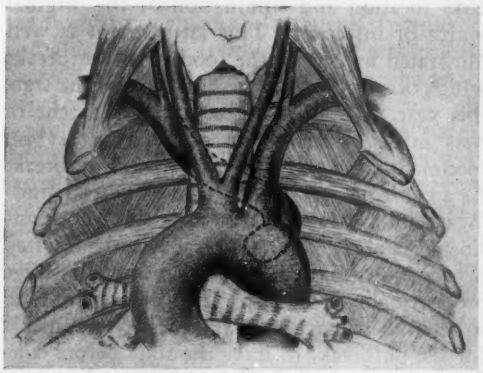

Fig. 1. Anterior view of aortic arch and rami from a seventy year old white male cadaver. Branches from arch in order from the left in picture are; bicarotid, dividing into two normal common carotids, normal left subclavian artery and anomalous right subclavian. The right subclavian passes between esophagus and bodies of vertebrae to reach the right side.

The vertebral arteries, which are often abnormal in their origins in this type of arch, were normal in origin and course to the sixth costotransverse foramina. The course of the right recurrent laryngeal nerve was unusual for it went directly to the larynx, passing superior to the right subclavian artery rather than passing around it as is its normal course.

Williams and Edmonds ('34) found this type of arch occuring in 0.5 per cent in white and in 1.4 per cent of the negro cadavers, and more frequently in female than in male cadavers. They did not find this anomaly in a white male, although Poynter ('16) has reported a case found in a white male cadaver. This is the first case of this type seen by the senior author in over 400 cadavers dissected here at the University of Kansas.

This is one of the anomalies which is best explained by its embryological development, or as the persistence of a part of the fetal circulation which normally disappears and the disappearance of another part which normally persists and forms a part of the normal adult circulation. The circulation in the early embryo, it will be remembered, is like that found in a fish, with the primitive aortic stem giving off a series of branchial arches. These are collected on the dorsal side of the pharynx by a right and a left dorsal aorta which unite caudad to the branchial region into the one thoracic aorta. This unusual right subclavian, which passed posterior to the trachea and esophagus is explained by the persistence of the inferior part of the right dorsal aorta, and the obliteration of the fourth branchial arch which normally forms the proximal end of the normal right subclavian artery. While this is a very striking anomaly and also a rare type, it may be rather easily explained, except, of course, as to why the fourth branchial artery, which normally persists should disappear, and the right dorsal aorta which usually disappears should persist in the adult.

The relations of this vessel and the posterior surface of the esophagus are important. Normally the posterior surface of the esophagus is separated from the anterior surface of the bodies of the cervical vertebrae only by the prevertebral fascia. In this case the passage of the right subclavian artery made a definite constriction in the esophagus. This of course probably was no hindrance in swallowing but it certainly would have been evident in esophagoscopy. Tucker ('32) describes a case of perforation of a normal aorta by an open safety pin. With this added constriction in the posterior wall of the esophagus there is an added element of danger in the case of foreign bodies in the esophagus and also in their removal.

Since the completion of this report two additional cases of anomalous right subclavian arteries have come to my attention. Dr. W. M. Mills has just informed me that he found a similar anomaly in a white male of rather advanced age in the Anatomy Department of the Kansas Medical College in 1911. The second case has just been found in our laboratory in one of the cadavers now being dissected. The cadaver is that of a male Mexican about thirty-five years of age. Nothing is known about this man who died of a fractured skull. The aortic arches in both of these cases have four rami, unlike the one described above. In both of these the two common carotid arteries come off separately from the arch. In other respects they are like the one reported above. The aortic arch in the cadaver which is now being dissected is shifted somewhat more to the left and the trachea and esophagus are correspondingly pushed to the right more than in the case described in this report. It is interesting that

after all these years the only two cases of this type seen by the senior author should come in two consecutive years.

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THE BLOOD CLOT CULTURE AS AN ADJUNCT TO THE WIDAL TEST*

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While the number of cases of typhoid fever occurring annually in the State of Kansas has been materially reduced in recent years, the incidence of the disease is still large enough to command the serious consideration of both health officials and the medical profession. There were 282 cases of typhoid fever reported to the Kansas State Board of Health in 1933. 296 cases in 1934 and 281 cases had been reported prior to November 18, 1935. Two food borne outbreaks occurred in the western part of the state in 1935, which were due to the preparation of food in a restaurant and a hotel, by typhoid carriers. One of these food borne outbreaks consisted of twelve cases and the other numbered eight cases. Nine cases of typhoid fever occurred in two families in Sumner County as a result of using unsafe water and five cases of the disease with one death resulted from the use of a contaminated spring in Chase County by a surveying party of six men from the Kansas State Highway Commission.

The best efforts of health officials in improving sanitary conditions and extensive typhoid immunization are essential to the control of typhoid fever, but any immediate reduction in the incidence of typhoid fever in the State of Kansas appears to depend upon earlier diagnosis and prompt reports to health officers by practicing physicians. Early diagnosis is of importance, not only for the prevention of secondary cases among those who come in contact with the case but more especially for the early location and elimination of the original source of infection. This latter point is well illustrated by one of the food borne outbreaks which occurred in the western part of the state this year. The Widal reaction was absent in tests made by an out-of-state laboratory on specimens from the first cases in this outbreak. As a consequence, the suggestive physical findings were ignored and the cases were not considered typhoid fever. This not only resulted in the outbreak reaching unnecessarily large proportions, but also permitted the person, who is believed to have been the carrier responsible for the outbreak, to leave the state before control measures were instituted. The laboratory that made the Widal tests on the first cases in this outbreak may not have been at fault, as will be shown later in this report.

Because of the indefinite character of the early symptoms of typhoid fever, laboratory aids in diagnosis assume considerable importance. As a consequence, there is an unfortunate tendency on the part of an all-too-large group of physicians to base the diagnosis of typhoid fever solely on the Widal test (a test which is of no value until the disease is well advanced) to the exclusion of physical findings and histories. Better and earlier diagnosis of typhoid fever carries a responsibility both for the physician and the laboratory. For the physician: Due regard for physical findings and histories, plus a knowledge of the characteristics of the different tests for typhoid fever and their efficiency at different stages of the disease, which will enable him to intelligently select the test which will give the most accurate result in a suspected case, regardless of the possible stage of the disease in which the case comes under his observation. For the laboratory: The development of refinements in technique which will increase both the speed and the accuracy of the work done.

A brief outline of the course of events in a typhoid infection offers some information as to what may be expected of different types of laboratory tests, at different stages of the dis-

*A modification of a report presented to the Kansas State Board of Health at their Quarterly Meeting, held in Topeka, September 11, 1935.

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ease. This summary is drawn largely from the excellent discussion of the subject by Topley and Wilson.[1] The typhoid bacillus enters the body through the alimentary tract in water, food, milk, or by means of contaminated fingers, and it seems probable that the greater part of the ingested organisms are destroyed in the intestines.

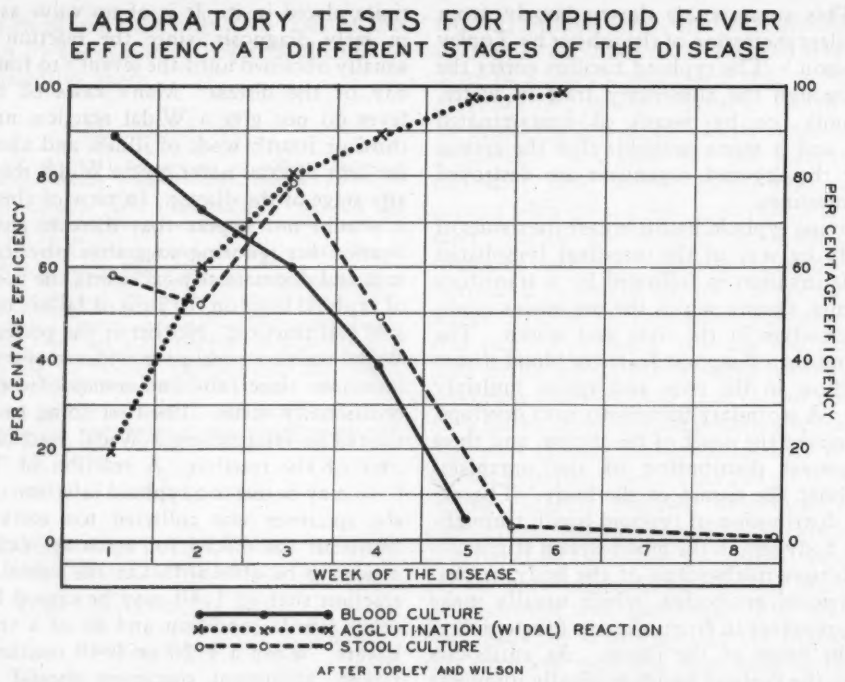
Surviving typhoid bacilli invade the tissues of the body by way of the intestinal lymphatics and this invasion is followed by a transitory bacteremia, during which the organisms establish themselves in the liver and spleen. The organisms then disappear from the blood stream while those in the liver and spleen multiply rapidly. A secondary bacteremia next develops, which marks the onset of the illness, and there is a general distribution of the organisms throughout the tissues of the body. The extensive distribution of typhoid bacilli throughout the body and in the blood stream stimulates the defensive mechanisms of the body to produce typhoid antibodies, which usually make their appearance in from seven to fourteen days after the onset of the illness. As antibodies develop, the typhoid bacilli gradually disappear from the blood stream. Following the secondary bacteremia, secondary invasion of the intestines occurs, the majority of organisms coming from the gall-bladder. A considerable proportion of typhoid cases continue to excrete typhoid bacilli after blood cultures can no longer be obtained while some cases continue to excrete the organisms well into convalescence or beyond it.

The accompanying chart shows the probability of obtaining definite results with the blood culture, the Widal (agglutination) test and stool culture at different stages of the disease and the figures given serve to confirm the outline of the course of events during a typhoid infection, given above. In considering this chart, it should be remembered that these are frequency curves and do not represent the course of events in an individual case, and that individual cases may vary considerably from the figures given.

THE WIDAL (AGGLUTINATION) TEST

While the Widal is the test most commonly employed as an aid in the diagnosis of typhoid fever, either through force of habit or because of ease in collecting and submitting specimens, it has a number of faults and most certainly does not merit the implicit confidence sometimes placed in it. It is of no value as an aid in early diagnosis, since the reaction is not usually obtained until the seventh to fourteenth day of the disease. Many cases of typhoid fever do not give a Widal reaction until the third or fourth week of illness and about two per cent of cases never give a Widal reaction at any stage of the disease. In view of these facts, it would not appear that there is any justification for ignoring suggestive physical findings and dogmatically excluding the possibility of typhoid fever on the basis of failure to obtain a Widal reaction. Neither is the presence of a Widal reaction conclusive evidence of a typhoid infection, since false and nonspecific reactions occasionally occur. The first thing to be considered in interpreting a Widal reaction is the titer of the reaction. A reaction of 1:20 or 1:40 may be due to a typhoid infection in which the specimen was collected too early in the course of the disease for a strong, definite reaction to be obtained. On the other hand, a reaction titer of 1:40 may be caused by some other febrile condition and be of a transitory nature. When a 1:20 or 1:40 reaction is obtained, additional specimens should be submitted and unless the titer of the reaction in successive tests goes up rapidly, the results of the test should be ignored. The interpretation of the results of the Widal test, which is carried on the back of the report blank used by The Public Health Laboratory states that only titers of 1:80, 1:160 or higher are of value as an aid in diagnosis, yet instances have occurred during the past typhoid season in which this advice has been ignored and a diagnosis of typhoid fever has been based solely on a Widal reaction having a titer of 1:40, without the support of physical findings.

The administration of typhoid vaccine will cause a Widal reaction which may persist, in some instances, for as long as three years after immunization. Special antigens have been used experimentally which seem to differentiate, with a fair degree of accuracy, between Widal reactions due to immunization with typhoid vaccine and those due to typhoid infections and, in all probability, such antigens will be put into routine use by the Public Health Laboratory in the course of the next few months. Certain cases of undulant fever will also cause Widal reactions, which have been variously termed cross agglutinations and anamnestic reactions, when no typhoid infection exists. In such cases, an undulant fever ag-



glutination, run parallel with the Widal test, will give an agglutination for undulant fever in a much higher titer than is obtained with the Widal test. There is little doubt that many of the cases of so-called "walking typhoid fever," which have occurred in the past, were, in reality, cases of undulant fever, giving a false Widal reaction on which the diagnosis was based. Because of this characteristic of undulant fever, the Public Health Laboratory runs an undulant fever agglutination on all specimens submitted for the Widal test. It is also entirely possible that there are other types of infections with which we are less familiar than we are with undulant fever which also give false Widal reactions. There appears to be no justification, therefore, for basing a diagnosis of typhoid fever solely on the Widal test, to the exclusion of physical findings, or for waiting for the Widal reaction to develop before making a diagnosis when other tests will give more reliable information much earlier in the disease.

THE STOOL CULTURE

The stool culture has been considered of secondary importance as an aid in diagnosis, its chief use being in determining when the patient was free of infection and in the detection of typhoid carriers. While the course of events in a typhoid infection would indicate that a high degree of efficiency is not to be expected in the early stages of typhoid fever, the probability curve shows that it is a somewhat better test in the early stages of typhoid fever than the much used Widal. Stool cultures should not be ignored in the early stages of illness, however, since bacillary dysentery infections are quite common in Kansas and these infections are best identified by stool cultures, collected as early as possible in the course of the illness.

Typhoid cases which have come to autopsy have shown almost pure cultures of the typhoid bacillus in the upper intestines, with organisms becoming less and less numerous at lower levels, until in the large bowel they may be so outnumbered by normal intestinal organisms as to escape detection by the bacteriological methods used in the past. Recent refinements in bacteriological technique, coupled with improvements in culture media have materially increased the efficiency of the stool culture. The present probability of isolating the typhoid bacillus from stool specimens, particularly in the later stages of the disease and during convalescence is, no doubt, much higher than is given in the probability curve. In view of the rather high incidence of bacillary dysentery

in the state, a stool culture might well be one of the laboratory specimens collected routinely in the early stages of all gastro-intestinal disturbances.

THE BLOOD CULTURE

Both theory and practice have shown that the blood culture is the procedure of choice as an aid in the early diagnosis of typhoid fever. Of first importance is the fact that the typhoid bacillus can be isolated from the blood stream of practically all cases of typhoid fever during the first few days of the illness—the time when the establishment of a definite diagnosis is of the most importance to the patient, his family or attendants and the welfare of the community. This test is not so valuable in the later stages of the disease since its reliability decreases as the disease progresses. The second point in favor of the blood culture is the fact that it gives more definite and conclusive evidence than is obtained from the Widal test since the isolation and identification of the typhoid bacillus leaves little room for doubt as to the cause of the illness. A third and most important point, so far as the prevention of the spread of typhoid fever is concerned, is the fact that typhoid bacilli can be isolated from the blood stream of mild and abortive cases of the disease, in which there might otherwise be little suspicion of a typhoid infection because of prompt recovery or atypical symptoms. Needless to say, such cases are a greater menace to the health of a community than the clinically typical case.

Older text books have so emphasized the bactericidal effect of clotted blood that it has been thought necessary in the past to put the blood specimen into liquid culture media before clotting occurred. The amount of liquid culture media required for a blood culture and the ease of contamination of such cultures has largely limited their use to well equipped hospitals. Blood cultures have therefore been neglected by physicians in home practice, even though efficient, if somewhat expensive, vacuum blood culture outfits, which can be used satisfactorily in the home, have been on the market for a number of years. The work done in a number of state health department laboratories in recent years has shown conclusively that the typhoid bacillus will remain alive in clotted blood for several days—long enough, at least, to guarantee their isolation, when shipped to the laboratory.

Sellers[2] has records of many instances in which the typhoid bacillus has been isolated from clotted blood specimens in his laboratory when the specimens were from forty-eight to seventy-two hours old. He also cites as an example of the efficiency of the blood clot culture, an outbreak in which clotted blood specimens were submitted from each of fourteen cases of milk borne typhoid fever, and the typhoid bacillus isolated from every specimen.

The added service of blood clot cultures, designed to assist the physician in the early diagnosis of typhoid fever and the detection of mild and abortive cases of the disease was inaugurated by the Public Health Laboratory on May 15, 1934, and gives the advantages of both the Widal test and the typhoid blood culture, with the convenience of collecting and shipping specimens which characterizes the Widal test. After the serum needed for the performance of the Widal test is removed from the specimen, the blood clot is placed in an oxbile culture medium, consisting of ten per cent dehydrated oxbile, ten per cent glycerine and two per cent peptone in distilled water. This medium dissolves the clot and at the same time inhibits the growth of practically all contaminating organisms, without interfering with the growth or the typhoid bacillus or other enteric organisms.

Between May 15, 1934 and November 1, 1935, the following results have been obtained with the combined Widal and clot culture tests:

Widal specimens examined	1,513
Widal reactions of a titer of 1:80 or higher	203
Positive clot cultures on negative Widal specimens	41
Positive clot cultures on specimens which were either broken in shipment or so badly hemolyzed that it was impossible to do a Widal test	10

In addition to the fact that the typhoid bacillus was isolated from fifty-one specimens in which no Widal reaction was obtained or on specimens on which a Widal test could not be made, the typhoid bacillus was also isolated from fifty-seven of the 203 specimens which gave a Widal reaction of 1:80 or higher. Furnishing very definite confirmation of the accuracy of the Widal reaction and ruling out any possibility of false reactions.

In the series of tests reported, the use of blood clot cultures as an adjunct to the Widal

test has increased the efficiency of the service rendered physicians in the diagnosis of typhoid fever over twenty-five per cent in addition to giving valuable confirmation of the results obtained with the Widal test in about twenty-eight per cent of the specimens giving a positive Widal reaction. Much greater efficiency will be achieved than has been reported in this summary, if specimens are collected earlier in the disease.

SUMMARY

1. The incidence of typhoid fever in Kansas merits the serious consideration of health authorities and the medical profession.

2. Any immediate reduction in the incidence of typhoid fever in the state depends upon earlier diagnosis and prompt reporting of cases by practicing physicians, thereby preventing contact cases and enabling health officials to locate the sources of epidemics and eliminate them before outbreaks assume serious proportions.

3. The commonly used Widal test is of no value as an aid in early diagnosis and its accuracy and efficiency is not great enough to merit the confidence frequently placed in it.

4. The blood clot culture is highly efficient as an aid in the early diagnosis of typhoid fever and clot cultures are made on all Widal specimens submitted to The Public Health Laboratory.

5. It is recommended that both a blood specimen and a stool specimen be collected as early as possible in gastro-intestinal disturbances as an aid in the early diagnosis of both typhoid fever and bacillary dysentery.

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SOME EXPERIMENTAL FINDINGS ON BLOOD PATHOLOGY

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I will briefly discuss some experimental work done in connection with the pathogenesis of some important blood diseases, because I consider that experimental findings may be helpful in the understanding of them.

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PERNICIOUS ANEMIA

In 1914, by the repeated injections of tyramine in guinea pigs, Iwao reproduced an hematic picture very similar to pernicious anemia. Dale and Dixon, repeating the experiments of Iwao in 1918, confirmed the findings of Iwao and extended their work on the physiological action of tyramine.

Tyramine, or oxyphenylethylamine, is a product of putrefaction often found in proteins with a high content of tyrosine, as, for example, caseine, and is found in meat, fermented cheese, etc. The bacillus coli has the property of transforming tyrosine into tyramine. In ergot the presence of tyramine is due to the biochemism of Claviceps purpurea. As the bacillus coli and other microorganism of the intestinal flora may produce tyramine, it is very probable that the bases may be absorbed by the intestinal epithelium and pass into the blood stream, in which a toxic action may be exercised. Such toxic effects, exercised for a continued length of time, may be considered as a probable origin of pernicious anemia. The findings of the above authors already mentioned seem to confirm such hypothesis.

Five guinea pigs were injected intraperitoneally with one milligram of tyramine on alternating days for a period of two months. Five rabbits were injected intraperitoneally with two milligrams of tyramine on alternating days for a period of three months. Another group of five rabbits received, intraperitoneally, one centigram of saponin Merck on alternating days for a period of three months. The saponin is a hemolytic poison and was included in the experiments, due to the fact that in pernicious anemia an hemolytic process has been considered as the basis of the process.

During the entire course of treatment the blood of the animals was examined in order to observe pathological changes. In guinea pigs under tyramine treatment the blood showed only a moderate anisocytosis and poikilocytosis with a predominance of microcytes. No basophilic cells or megalocytes were observed during the entire course of the intoxication. The white cells showed a predominance of lymphocytes and monocytes. The bone marrow showed a rarefaction of myeloid elements, presence of erythroblasts and megakariocytes, and a number of endothelioid cells along the sinusoids. No large cells of the megaloblastic type were observed.

In rabbits under the intraperitoneal treatment, the microcytosis was more evident and a number of erythroblasts were seen in the peripheral blood. The white cells showed predominance of mononuclear elements. The bone marrow showed rarefaction of the myeloid elements, presence of erythroblasts in various degrees of maturation, and absence of cells of megaloblastic type.

In rabbits under intravenous treatment of tyramine, the above findings were more pronounced. Microcytes, basophilic red cells, and erythroblasts were present; the white cells were increased with predominance of lymphocytes and monocytes, but no cells of a megaloblastic type or megalocytes were seen. The bone marrow was hyperplastic with numerous cells of the hemocytoblastic type, erythroblasts and myelocytes, but no megaloblasts were seen. The spleen showed a very marked hyperplasia of the lymph-follicles and a diffuse proliferation of lymphoid tissue outside the follicles; the venous sinuses were congested.

In rabbits, under the saponin treatment, the blood findings were similar to those found in hemolytic processes. The microcytosis was more pronounced than in the case of tyramine, with marked poikilocytosis. The reticulocytes were not increased, probably due to the continuous toxic stimuli impeding any attempt at regeneration of the bone marrow. In fact the bone marrow appeared hemorrhagic; this color could be compared only to that of a blood clot. It revealed the presence of rare myelocytic elements and erythroblasts in every degree of maturation, from the hemocytoblasts in erythroblastic orientation to the pyknotic nuclei of almost mature cells. No cells of megaloblastic type were observed. The spleen showed rarefaction of the lymph-follicles and hyperplasia of the cordons, with marked presence of blood cells in the lumina of the cordons and venous sinuses. The liver showed a marked congestion and fatty degeneration of the cells around the centro-lobular vein.

LEUKEMIA

The white cells have an important function in the general metabolism of the organism, as it seems they are assigned to the transportation of various nutritive substances from the digestive tract to other organs. Pentimalli, in a series of researches, demonstrated that the lymphocytic systems react very sensitively to the penetration of heterologous proteins or proteic derivatives. He obtained pictures of very marked leucocytosis and hyperplasia of the hemolymphopoietic organs during the course of chronic proteic intoxications, obtained by the injection of foreign proteins. His conclusions were that the leukemias are metabolic diseases due to the entrance in the organisms of abnormal proteic products or insufficiently denatured heterologous proteins.

In our experiments, five rabbits received intravenously, on alternate days, five cc. of a twenty per cent solution of sodium nucleinate for a period of about two months; five rabbits received five cc. of a ten per cent solution of silver nucleinate; five rabbits five cc. of a two per cent solution of calcium caseinate; and five rabbits one cc. of diluted streptococcus toxin.

In the blood of rabbits injected with sodium nucleinate and calcium caseinate, the number of white cells was increased; but the cells were preponderatingly of a normal adult type, as elements of a myelocytic type seldom were encountered. The bone marrow showed hyperplasia of the myeloid cells, but, however, all the types were represented and no predominance of the less mature cells was observed. The spleen showed hyperplasia of the lymphfollicles with presence of germinal centers, and hyperplasia of the cordons, in which were observed numerous eosinophiles and cells of the erythroblastic type, but no myeloid metamorphosis, as is seen in leukemia.

In the blood of the animals receiving the streptococcus toxin a leukemoid reaction was evident. Many cells of the hemocytoblastic, myeloblastic and myelocytic types were present in the peripheral blood. The bone marrow was hyperplastic and revealed the presence of numerous stem cells and immature cells, conferring more definite leukemoid character. The spleen was hyperplastic, and on smears revealed presence of numerous immature elements.

I have followed several cases of human streptococcus infection with septicemic course and observed a similar picture. Worthy of remark is the fact that those cases which present a leukemoid picture presented the original focus of infection in the abdominal cavity. In a few cases the reaction could be taken for an authentic leukemia, and only after the principal focus of infection was discovered and drained could an improvement be observed in the leucocytic formula with return of more mature cells in the peripheral blood.

(Continued on page 29)

PRESIDENT'S PAGE

To the members of The Kansas Medical Society:

The first official utterance of your President shall be a commendation of the very fine administration of our retiring President, Dr. J. F. Hassig. The years work is a full fruition of the many years of experience that he brought to the office. His intimate knowledge of the affairs of organized medicine has been of unusual value to this Society. His general personality has cemented the friendships of many years. His work in firmly establishing the office of Executive Secretary, the revision of the constitution and the betterments in The Journal is outstanding. The year has been one of many problems. The changes in social and economic conditions have made it necessary to take up new and difficult activities. He has met all of these in the very finest way and he closes his administration with the Society well organized, cooperative, seriously at work and alert to the problems of organized medicine.

We fully appreciate the responsibility we are assuming. We bespeak your help, your counsel, and your patience during the coming year. We pledge you our very best efforts.

H. L. SNYDER, M.D.

EDITORIAL

OUR NEW PRESIDENT

Kansas medicine welcomes Dr. H. L. Snyder as its president for 1936.

Dr. Snyder's integrity and ability as a member of the profession, his good judgment, his close association for many years with the functions of the Society, and his acquaintance

Dr. H. L. SNYDER

and recognition throughout the state equip him well to assume the responsibility for which he has been chosen.

The Journal joins all members in pledging fullest cooperation toward making his year one of the most successful in the history of the Society.

PREMATURITY

The field of premature childbirth had best be left to the obstetrician for discussion. There is a group of premature births which does concern the profession at large. We refer to the premature announcement of new methods of treatment.

Medical literature is replete with the records of enthusiastic ideas which have been given birth before term and have died aborning. This is perfectly proper. Medical literature should be the storehouse for these dead fetuses. The tragedy occurs when we exhibit these specimens to the public.

To arouse hope of speedy cure of diabetes, cancer or insanity without being able to deliver such cures belongs to the charlatan, not to ethical practitioners. The laboratories and clinical centers should be the proving grounds for new therapeutic methods and announcements made only after such proof is certain.

Ambitious newspaper men may be charged with some of the responsibility for exciting a public ready to believe in miracles but the final fault lies in our own ambition to be the first to announce a new discovery.

Let us practice a little more conservatism, hug our babies to our bosoms until they are able to enter a world eager to receive them but anxious to slay them.

MEDICAL RESEARCH

The increasing difficulty in obtaining funds for scientific research should engage the serious thought of the medical profession. The incalculable sums being spent for military power in nations heretofore interested in the quest of scientific truths, the millions of young men being driven into training for active military service, the moneys which were once interested in university laboratories now fighting each other for markets: these are disturbing facts. In our own country individual contributors find themselves less able and willing to donate to the support of laboratories and many investigations begun have been stopped because of lack of funds.

Great industries during their period of development saw much advantage to their own aims in research and contributed handsomely to the support of university laboratories. In recent years, these industries have required

special investigators and experimentation according to their particular commercial needs; and it has been found advantageous to establish their own research departments. The withdrawal of the support of industry has been somewhat compensated for in the Foundation, a development of organized philanthropy peculiar to the United States, for the purpose of securing, investing, and distributing funds to worthy causes and scientific research in various fields. Because of the necessity for retrenchment due to financial losses and the inability to secure adequate contributions from previously liberal donors, the work of our Foundations is being curtailed and it has been found necessary to remove financial support from much research already under way. This has resulted in the serious interference with the training of research workers and threatens the existence of research as a function of university work.

The traditional research worker is a solitary individual devoted to the discovery of scientific truth for its own sake. But as art for art's sake is no longer considered defensible, neither is such a scientific point of view. Modern realism demands that truth connote utility. Research workers should still be able to think and deserve a cloister. They should not be required to work under the pressure of time and a task master. It is true that the modern scientist is a more gregarious individual than his traditional forebears. He works in a group, and, perhaps, less genius is required and there is less intellectual responsibility. In the universities, too often, research is combined with teaching. In addition to a given problem, the worker must produce papers at specific intervals to demonstrate to authorities or to donors that progress is being made.

Research requires such qualifications and training of its personnel that it should be considered as a special field. The workers should be given as much latitude as is possible in a university environment. It is essential that the basic education for future research workers begin in the high school curriculum. The application of physiochemistry requires more training in mathematics. The student who displays aptitude in pre-medical and medical school study may be chosen for special training in medical research.

For the medical profession to finance its own research, as many industries are doing, and is being done by the Mayo Clinic through the Mayo Foundation, seems a large order, yet it may become necessary in the process of economic readjustment. There are obvious disadvantages to organized medicine in the financing of some of the research work undertaken by Foundations whose social aims are not in accord with popular medical opinion. However the question of financing medical research is to be solved, it is becoming a vital issue worthy of the best thought of the medical profession.

MEDICAL SCHOOL CLINIC

ALKALOSIS WITH KIDNEY INSUFFICIENCY

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The existence of an altered chemical state in the body, such as acidosis and alkalosis, was first suggested by Franciscus Sylvius[1] during the seventeenth century. Friedrich Walter[2] (1890) first described the action of alkalies upon metabolism and MacCallum and his coworkers[3] were the first to produce alkalosis experimentally. Since MacCallum's work on alkalosis, many studies have been made on the acidbase balance of the blood, and alkalosis is now commonly recognized clinically. This condition is adequately reviewed by Van Slyke[4] and in the recent textbooks of medicine and surgery.

Musser[5] defines alkalosis as "that condition of the fluids of the blood which is produced by the addition thereto of base, or the withdrawal of acid, to a degree sufficient to alter, beyond

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physiological limits, the pH, the carbon dioxide tension, or the bicarbonate content of the plasma." This change in the blood produces a clinical syndrome which is present in many disorders. In alkalosis the chief factor is probably the change in the pH of the blood, resulting from an increase in the blood alkalies induced by either (1) an excessive loss of acid from the body, as the loss of carbonic acid in hyperventilation or loss of hydrochloric acid by vomiting, or (2) absorption of alkalies, as in the treatment of peptic ulcer. In the clinical laboratory the acid base balance is determined, for practical purposes, by the carbon dioxide combining power of the plasma, the normal being stated as forty-five to fifty-five volume per cent, or as given by Marrack[6] fifty-five to sixty-five cubic centimeters per 100 cubic centimeters of blood.

Alkalosis is characterized clinically by headache, nausea, drowsiness, increasing instability, restlessness, excitability, paresthesias, tremors and tetany. In severe cases convulsions may occur. Edema and evidences of renal insufficency are found in advanced cases. Renal changes have been noted by numerous observers both experimentally and clinically. This "Alkalosis Uremia Syndrome" has been reviewed by Bothe[7], Pfeiffer[8], and Orr and Rumold.[9] There may be a marked increase in the blood non-protein nitrogen and urea nitrogen, associated with albuminuria, cylinduria, pyuria and mild hematuria. Constant findings in cases resulting from loss of gastric juice are a decrease in blood chlorides, dehydration and lowered blood volume.

The following two cases are reported as illustrations of severe alkalosis. In one patient epileptiform convulsions occurred and evidence of renal insufficiency was present in both.

CASE 1

History—H. J., white male, aged thirty-two, was admitted to the University of Kansas Hospital complaining of stomach trouble, vomiting and convulsions. For several years the patient had been consuming a considerable quantity of alcohol with rather frequent intoxications. During the past few months he had used more alcohol than formerly and had frequently been intoxicated for several days each week. Following these indiscretions he suffered from gastric distress with sufficient nausea to make him induce vomiting quite frequently. Six days prior to admission he went on an alcoholic debauch, and the next day he suffered from epigastric distress and nausea. He induced vomiting by inserting his finger into his throat every few minutes. This condition persisted for the five days prior to admission and was not relieved by large doses of sedatives. During this time he had intense thirst, became quite weak, very irritable, disagreeable and difficult to manage.

About noon the day of admission he had a convulsion lasting one and one-half minutes, which was characterized by unconsciousness, opisthotonos, generalized tonic and clonic movements, rolling of the eyes, biting of the tongue and incontinence of urine, followed by a five minute period of unconsciousness. Thirty minutes after the first seizure a second convulsion occurred, and a third followed in one and one-half hours. He had five definite convulsive attacks in one afternoon.

The physical examination showed a well nourished white male who was very restless, talking irrationally and crying out for water. There was moderate cyanosis of the lips and fingers, and marked sweating. The pupils were dilated. Mucous membranes of the mouth were very dry. The pulse rate was 100. The blood pressure was 200 systolic and 150 diastolic. There was no evidence of edema. All tendon reflexes were hyperactive.

Laboratory findings on admission: The blood chemistry showed a carbon dioxide combining power of 80.6 volume per cent, sugar 180 milligrams, chlorides 240 milligrams, non-protein nitrogen 85.5 millograms and creatinine 1.7 milligrams per 100 cubic centimeters of blood. The red blood cells were 5,810,000, white blood cells 32,650, hemoglobin 106 per cent, polymorphonuclears eighty-nine per cent and lymphocytes eleven per cent. Five to six pus cells per high power field were found in the urine.

Progress: In Table I is given the therapy and the blood chemistry changes during the entire hospital stay. During the first twenty-four hours in the hospital the patient's condition was much improved and the nausea disappeared. He was able to retain small quantities of water by mouth and some soft foods, and on the third day he felt well, disposition was agreeable, and he retained a soft diet. During the hospital stay the blood picture gradually became more normal with a count the day before dismissal as follows: Red blood cells 4,500,000, hemoglobin eighty-four per cent,

TABLE I

Shows rapid return of blood chemistry to normal following treatment with sodium chloride solution.

Time	CO_2 Volume Per Cent	N.P.N.*	NaCl	Creat.	Sugar	NaCl Intake	Total Fluid	Urinary Out Put
Admission	80.6		240		180			
1st 12 hours	32.4	85.5	260	1.7	109	250 cc. 3% I.V. 2000 cc. N.S. Hypo.	4300 cc.	2400 cc.
2nd 24 hours		52.5	360	1.8	87	1700 cc. N.S. Proct.	4500 cc.	3675 cc.
3rd 24 hours		33.5	440	1.4	155	3000 cc. N.S. Hypo	10150 cc.	4250 cc
4th 24 hours	46.6	32.3	465	1.5	110			
5th 24 hours	54.1	27.	450	1.4	132			

*Blood chemistry figures are mgm. per 100 cc. blood.
(I.V., Intervenous; Hypo., Hypodermoclysis; Proct., Proctoclysis.)

TABLE II

Shows return of blood chemistry to normal similar to findings in Table I.

Time	CO_2 Volume Per Cent	N.P.N.*	NaCl	Creat.	Sugar	NaCl Intake	Total Fluid	Urinary Out Put
1/20/35	85	60	330	1.5	132	4000 cc.-0.8 %	4950	650 cc.
1/21/35	92	46	350	1.4	112	1400 cc.-0.8 %	2370	700 cc.
1/22/35	72	34	500	1.4	115	800 cc.-2½%	2950	2500 cc.
1/23/35	83	26	450	1.3	114	500 cc.-2½%	1590	725 cc.
1/26/35	67	31	490	1.3	109	2000 cc.-0.8 %	3010	

white blood cells 16,300, polymorphonuclears eighty-two per cent, eosinophiles two per cent, lymphocytes sixteen per cent. During the second and third days the urine contained one plus sugar. The urine on dismissal was alkaline in reaction with a specific gravity of 1.009, a trace of albumin and 120 pus cells per cubic millimeter. The blood pressure varied from 150 systolic and 110 diastolic to 190 systolic and 140 diastolic. For several weeks after the patient left the hospital the blood pressure was 120 systolic and eighty diastolic and the urine was normal.

CASE 2

History—A. J., female, aged thirty-five, admitted to the hospital on January 20, 1935. Onset of illness ten days before admission with severe pain in the upper abdomen extending through to the upper lumbar region. Pain was followed in a short time by nausea and vomiting. The vomiting had been continual for ten days.

During the past three years she had had several mild attacks with similar pain, at times accompanied by severe chills.

Examination: On admission she was acutely ill. She lay in bed groaning with pain and frequently vomited. Extreme dehydration was obvious. Her skin had a pasty appearance and her lips were dry and harsh. The abdomen was distended and tympanic. Peristalsis could be heard. There was definite tenderness over the entire abdomen and the skin of the abdominal wall was hypersensitive. The blood pressure was normal. Her blood count on admission showed red blood cells 5,580,000, hemoglobin seventy-seven per cent, white blood cells 13,850 with eighty-five per cent polymorphonuclears. A catheterized specimen of urine showed a specific gravity of 1.014, acid reaction, a heavy trace of albumin, granular and hyalin casts and a few pus cells. On the following day the urine showed the same findings with clumps of pus cells. The blood chemistry determinations are shown in Table II. Wassermann and Kahn were negative.

Tentative diagnosis of acute intestinal obstruction, acute nephritis and alkalosis were considered.

X-ray of the abdomen did not reveal any evidence of obstruction. She was immediately given normal saline solution by hypodermoclysis and by intravenous infusion. Within five days her urine returned to normal. On the sixth day the blood chemistry findings were within normal limits with the exception of a slight increase in the carbon dioxide combining

power which was sixty-seven volume per cent. The white blood count had returned to normal within five days and the red blood count showed a rather striking change with a drop of red cells from 5,580,000 to 3,180,000. There was also a fall in the hemoglobin from seventy-seven per cent to sixty per cent. This change was evidently due, not to a rapidly developing secondary anemia, but to a dilution of the blood which was markedly concentrated on admission.

The patient was operated upon with a tentative diagnosis of empyema of the gall bladder. A small quantity of blood stained fluid was found in the abdomen. The pancreas was enlarged to at least three times the normal size and was markedly thickened and very firm. There were many areas of fat necrosis in the mesentery and the omentum. Many old adhesions were present between the gall bladder and the mesentery of the transverse colon. The liver was slightly nodular and enlarged. The gall bladder was about average size and contained many small stones. Because of the generally poor condition of the patient the common duct was not explored. Stones were removed from the gall bladder and the gall bladder drained. The patient made a good postoperative recovery. She left the hospital with instructions to return at the end of three months for an operation on her common duct.

COMMENTS

The first patient illustrates the complexities of alkalosis both in its clinical and laboratory manifestations. We believe that the course of events in this case are as follows: Alcoholic gastritis with sufficient nausea to cause patient to induce continuous vomiting, which resulted in alkalosis by loss of hydrochloric acid in the gastric juice. The nausea was aggravated by the alkalosis producing a vicious cycle. The severity of the alkalosis is shown by a carbon dioxide combining power of 80.6 volume per cent and the very low blood chlorides of 240 milligrams. The convulsive seizures, mental state, hperactive reflexes, and evidence of kidney damage, are clinical evidences of severe alkalosis.

This case presents several unusual findings associated with alkalosis, i.e., severe epileptoid convulsions, increased blood pressure and leucocytosis. The increased blood pressure is the antithesis of the usual finding of lowered blood pressure. We believe that it was a part of the "uremic" symptoms in this case since it returned to normal as the evidence of kidney damage abated. In a rather comprehensive search of textbooks and the literature no reference to leucocytosis in cases of alkalosis has been found. Very few reports even mention the leucocyte count, and those given are normal. A search was made in this case for infection to explain the leucocyte count of 32,650, but none was discovered. An acute gastritis as a cause of leucocytosis was considered. The patient had a daily elevation of temperature up to 100°F. which we believe was due to acute gastritis or to the depleted state and dehydration.

The second patient well illustrates the advanced state of alkalosis, with its typical blood chemical changes, that may develop with an acute inflammatory condition within the abdomen. The similarity of symptoms, physical findings and results of laboratory studies between acute intestinal obstruction and acute pancreatitis are clearly shown in this case. The same striking therapeutic results were obtained by giving sodium chloride solution as was noted in Case I. The evidence seems clear that without prompt treatment this patient would have soon died as a result of dehydration, hypochloremia and alkalosis due to excessive vomiting of essential upper gastrointestinal secretions. The clinical findings definitely indicated that the toxemia incident to the acute pancreatitis was subsiding at the time of admission to the hospital ten days after the onset of the illness.

The importance of the renal complications associated with alkalosis was pointed out by Brown, Eusterman, Hartman and Rountree[10] in 1923. The picture presented may be that of uremia which is substantiated by the evidence of kidney damage. However, the laboratory findings should aid in the differential diagnosis in that evidence of acidosis is associated with uremia of pure nephritic origin. The differential diagnosis may be complicated by the fact that clinically it is often difficult to distinguish between acidosis and alkalosis.

Alkalosis usually responds readily to therapy, as illustrated in these cases. Fortunately sodium chloride is a specific for the condition when it results from loss of gastic juice. This may be given either by intravenous infusion of a three to five per cent solution or by hypodermoclysis of physiologic salt solution. The change in the chemical state of the blood should be checked daily as a guide to therapy.

Alkalosis is a condition which should be diagnosed more frequently than it is at present. This is especially true for milder cases such as those due to vomiting and hyperventilation of the psychoneurotic, who present the milder symptoms of irritability, excitability, numbness, tingling, twitchings and headaches that are usually ascribed to a neurosis. Alkalosis should always be suspected in any prolonged vomiting, any type of hyperventilation and during alkaline therapy.

SUMMARY

1. Two cases of severe alkalosis are presented. The first resulted from vomiting in a case of alcoholic gastritis, with the symptoms and findings of renal insufficiency and the more unusual findings of leucocytosis, elevated blood pressure and convulsive seizures. The second was produced by persistent vomiting as a result of a severe attack of acute pancreatitis.

2. A brief discussion of alkalosis, from the clinical point of view, is given.

3. Attention is again called to the fact that a solution of sodium chloride given in sufficient quantity is a specific for alkalosis produced by loss of gastric hydrochloric acid.

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LABORATORY

Edited by J. L. Lattimore, M.D.

CLINICAL PHOTOGRAPHY

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The importance of recording pathological changes, both in the living and in the dead subject, by photographs cannot be overestimated. A good picture tells often more than a whole page of descriptive matter. No doubt the time will come when a photographic department will be regarded as an economic and scientific necessity not only in research institutions but also in the general hospital.

The Traveling Salon of the Association of Biological Photographers which was exhibited at the last state medical meeting in Salina, demonstrated what excellent work is done today by experts in clinical photography.

As long as a medical photographic department is not available in every large hospital, the physician should make his own photographic records of his important cases. There is neither mystery nor difficulty in making clinical photographs, nor is it essential that the equipment used be elaborate. By following carefully a few simple rules any practitioner can obtain excellent pictures in his office.

EQUIPMENT

The clinical camera should have a double extension bellows so that objects may be photographed in actual size if required, a ground glass back for exact focusing and a tripod. The most practical film size is five by seven inches. The optical equipment on the camera selected is of utmost importance; an anastigmate lens is a necessity, as a good clinical photograph should have microscopic detail. A convenient focal length is eight inches.

The lighting equipment consists of a photoflood Mazda lamp in a gooseneck stand for focusing and a photoflash Mazda lamp reflector for exposing. A portable home portrait reflector painted light gray serves as background.

As negative material, superspeed safety portrait film is most commonly used, while I prefer Wratten M plates.

SET-UP

The patient is placed about twenty inches in front of the background and the photoflood lamp is so directed as to provide the necessary illumination for focusing the lesion on the ground glass of the camera. The shutter and diaphragm of the lens are opened and the desired picture, in the right scale, is focused sharply on the ground glass by turning the small knob which moves the bellows in and out. When focusing has been completed, the photoflood light is switched off, the diaphragm is closed

to f.32, the shutter is closed, the plate holder is placed in the back of the camera and the slide is removed. Finally the shutter is opened and the photoflash lamp is pointed at the lesion so that an angle of forty-five degrees is formed, care being taken that the light from the lamp does not strike the lens. When the battery switch is pressed, the exposure is made. To complete the procedure it is necessary only to close the shutter and replace the slide in the plate holder.

DEVELOPING AND PRINTING

The film is developed for eight minutes in x-ray developer solution at 65 F. Plates are best developed in a tray. Thorough rinsing in water, fixation for fifteen minutes, washing for thirty minutes in running water and drying complete the processing procedure. Contact prints are made on glossy Azo paper and dried on the ferrotype board.

CONCLUSIONS

By following the outlined rules, anybody can with perfect regularity take clinical photographs of excellent quality. All that the medical man has to learn is how to pose the patient and how to focus the desired picture on the ground glass of the camera. These two steps should be done by the physician himself, all the other procedures may be left safely to the technical assistant.

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TUBERCULOSIS ABSTRACTS

TUBERCULOSIS AMONG NEGROES IN THE SOUTH

Briefly the deplorable situation in the Southern States comprising this Conference was made manifest through the following facts. The total population of the thirteen states represented is approximately 35,000,000 of which negroes comprise approximately 10,000,000. While less than one-third the total population is colored, more than half of the deaths from tuberculosis are to be found among the negroes, the average death rate from tuberculosis among negroes being almost three times that among the whites. The Southern States comprising this Conference, possessing only sixteen per cent of the national wealth, must meet the needs, (social, economic and physical) of seventy-five per cent of the nation's negro population.

The importance of environmental conditions, arising chiefly through ignorance, poverty, and neglect, was repeatedly stressed. The annual economic loss from tuberculosis deaths and morbidity among negroes is very great.

The significance of occupational contacts was also emphasized and attention was called to the fact that through domestic and other personal services, approximately fifty per cent of the adolescent and adult colored population is brought into close touch with white children at their most susceptible age, thus providing perpetual seeding of a most fertile soil. Recent statistical studies were presented, revealing the significant fact that school children from the homes of those who employ negro domestics show a much higher percentage of infection as revealed by tuberculin tests than those from the homes of people who live reasonably well but who are unable to employ domestic help.

It was shown that in spite of the high incidence, morbidity and death rate from tuberculosis in the negro, there is a serious paucity of sanatorium beds for negroes. The annual number of deaths from tuberculosis among negroes in the South is approximately 11,000 with only 2,000 available sanatorium beds. The deaths among the whites approximate 10,000 with sanatorium facilities approaching one bed for every death. It was made obvious that poor housing, overcrowding in unhygienic surroundings, insufficient food, and the consequent massive infection among negroes make sanatorium care imperative.

DIAGNOSTIC DIFFICULTIES

It was pointed out that early diagnosis is often more difficult in the negro than in the white patient on account of certain racial and temperamental characteristics. There is often an utter disregard of mild or moderate symptoms, also a lack of information concerning the significance of symptoms when recognized. A sense of futility is often present and it is not uncommon to find a wilful attempt to conceal symptoms and to avoid examination. In some

cases diagnosis is difficult because of certain variations, racial or enrivonmental, in the clinical course of the disease where the chracteristic symptomatology and pathology simulate acute non-tuberculous conditions.

The lack of general medical service was also stressed, revealing the startling fact that in some communities twenty-five per cent of the deaths among negroes occur without medical attention.

RACIAL SUSCEPTIBILITY AND PATHOLOGICAL VARIATIONS

Throughout the sessions, these debated questions were ever present with a heavy trend on the part of the clinicians toward environmental influences. However, as pointed out by the pathologists, it was found impossible to eliminate racial susceptibility with racial variations in clinical and pathological manifestations. As a consequence, the discussions arising at this meeting resulted in a happy blending of racial and environmental influences. The pathologists present generally acknowledged the influence of environment as a potent factor in the wide gap between the white and colored death rates, but at the same time they presented convincing evidence of racial or biological characteristics in the pathology of tuberculosis. Fortunately, the controversy left no one in doubt as to the importance of environment in our future programs for control of tuberculosis. At least environment is open to attack and subject to alteration.

PREVENTIVE AND THERAPEUTIC MEASURES

The obvious influence of ignorance and poverty upon the incidence, morbidity and death rate was stressed. The need of education was repeatedly emphasized, with stress upon the importance of health education in the schools and churches through public health agencies, with particular emphasis upon the work of the public health nurses. The need of trained colored physicians and colored public health nurses, with a discussion of ways and means of providing the same, received detailed consideration. Schools and special teaching clinics for the training of colored doctors and nurses for service in the prevention, diagnosis and treatment of tuberculosis were advocated. It was urged that training for negro doctors should include adequate provision for fundamental instruction of undergraduates in the epidemiology, diagnosis and treatment of tuberculosis in medical schools for negroes, also intern and resident service for negro doctors in sanatoria and in the tuberculosis wards in general hospitals.

Health education in negro colleges was suggested as a means of preparing the way for general health education, since a large per cent of college graduates become school teachers. The desirability of providing racial leadership was emphasized. The character and quality of papers and discussions presented by colored doctors at this conference may be considered prophetic of future achievements along this line. The affiliated collateral meetings for colored people initiated at the Houston Conference also mark a resounding note of promise.

The question of sanatorium beds for negroes was discussed and a committee appointed to pursue this need. The Burr Cottage, the screened porch, and other improvised home facilities were discussed in connection with home treatment. Artifical pneumothorax in ambulatory cases among negroes was advocated as a public health measure and as being significant from an epidemiological standpoint.

ULTIMATE CONCLUSIONS

This meeting made obvious the necessity of squarely facing the tuberculosis problem among negroes in the South, if we hope to make further progress in tuberculosis control as it concerns the population as a whole.

Both the medical and sociological phases of the problem received careful consideration. The program, throughout, was characterized by a frank expression of opinion. All questionable teachings and procedures were scrutinized with distrust, while all facts established by science and tried by experience were eagerly received. Through the discussions ran a coveted consciousness of the adequacy of medical science in the control of tuberculosis, saddened by an equal awareness of the inadequacy of its application to the problems of control. It was evident that the failure to meet social and economic needs stands prominently in the way of scientific progress.

The implications of lethargy and neglect rest upon the shoulders of both the professional and lay groups. It was agreed that there should be no passive moments; no resting on the oars, while waiting for better facilities. The resistant qualities of crass ignorance and superstition still found in the strongholds of poverty is like granite, and yields only to the perennial operation of elements which reach their destiny through gradual erosion.

The spirit characterizing true public health work was shown to be synonymous with genuine religion, and consists not in getting, but in giving.

The facts assembled seemed to warrant the conviction that the crusader against tuberculosis should wear a composite garment with medical science, common sense and measured sentiment as its chief components.—Tuberculosis Among Negroes in the South—Dr. Lewis J. Moorman, Oklahoma City.

MEDICAL LITERATURE

Edited by Will C. Menninger, M.D.

ARTIFICIAL PNEUMOTHORAX IN PNEUMONIA

Burbank and Rothstein believe that artificial pneumothorax is a beneficial method of treatment of lobar pneumonia and present a series of twenty cases so treated, in which the mortailty was only ten per cent. The authors list eight indications to be considered before the treatment is begun: (1) the pneumonia must be of the lobar type; (2) the lung involvement must be unilateral; (3) the age of the patient must be below sixty; (4) moribund patients must be excluded; (5) the patient must be actively febrile; (6) the stage of the disease must be earlier than the sixth day; (7) pleural effusion must not be present; and (8) complications already present must be considered.

The standard pneumothorax machine with eighteen to twenty gage needles was used, and when feasible, the puncture was made over one of the uninvolved lobes. Novocaine anesthesia was used. Air was never introduced until the fluctuations obtained were characteristic of intrapleural pressures, and frequent readings were taken to avoid sudden pressure rises. The amounts varied from 200 to 500 cc. for one treatment and from 600 to 1600 cc. for the total. The ideal amount seems to be about 1000 cc. divided into two treatments of 500 cc. each, given from four to six hours apart.

Immediate effects of the treatment were relief of pain, freedom in breathing and coughing, and in six cases, a short period, from three to five minutes, of coughing. Delayed effects included (1) permanent relief of pain; (2) free and painless coughing with an increase in the amount of sputum present for a short period due to the free painless coughing; (3) ability to sleep and rest without opiates; (4) no abdominal distention; (5) no direct effect upon toxicity; and (6) a crisis before the fifth day in only two cases.

There were no immediate complications such as pleural shock, air embolism, or increase in dyspnea or cyanosis. Delayed complications were (1) pleural adhesions which necessitated the discontinuation of the pneumothorax; (2) empyema: two patients developed empyema due to Streptococcus hemolyticus, were both operated upon, and are gradually recovering; (3) Atelectasis and pulmonary fibrosis have not been observed in any case; (4) delirium developed in five cases; (5) delirium tremens developed in one case of alcoholism; (6) bilateral parotitis, auricular fibrillation, and carbuncles over the sacrum developed in one case each; and (7) three cases developed contralateral lobar pneumonia.

Pneumothorax is not expected to replace other accepted forms of treatment, but merely to supplement them in patients where its use is indicated. Advantages of pneumothorax are that it requires no typing; it can be used at once; it is not limited by the pneumococcus type; there is no danger of anaphylaxis; and it is inexpensive. It requires, however, special apparatus and technical experience.

Burbank, Benjamin; & Rothstein, Emil: Artificial Pneumothorax in the Treatment of Lobar Pneumonia, Annals of Internal Medicine 9:376-387, October 1935.

FEVER THERAPY IN ARTHRITIS AND CHOREA

The use of the Kettering hypertherm in treating eighteen cases of gonorrheal arthritis, nine acute and nine chronic, and twelve cases of Sydenham's chorea is reported by Schnabel and Fetter. Fever is produced in the patient in this apparatus by means of a current of heat and humidified air. The patient's pulse and temperature are taken every fifteen minutes or oftener. The temperature reaches the desired level in from sixty to ninety minutes. For patients with gonorrheal arthritis the treatment consists of five hours in the cabinet with the temperature retained at 106 F. (rectal) to 107. Treatments are given at weekly intervals; the number required varies, but is usually from two to five. Of the nine acute cases so treated, six were cured, two markedly improved, and one moderately improved. Of the nine cases

of chronic gonorrheal arthritis, five were cured, three markedly improved; and one moderately improved.

Temperatures of 103 to 104 F. for three hours at weekly intervals were used in the first cases of chorea. Later it was found that the patients improved more rapidly after temperatures of 105 to 106 F. with treatments twice a week. The present treatment is three hours at 105 to 106 twice weekly with as many treatments as necessary; usually from three to five are sufficient. Of the twelve patients with chorea, nine were cured and two greatly improved. One died following treatment, and the autopsy revealed a cerebral disturbance of the heat regulating mechanism.

Schnabel, Truman, G. Fetter, Ferdinand: Fever Therapy in Gonorrheal Arthritis and Chorea, Annals of Internal Medicine 9:398-405, October 1935.

PERSONALITY AND ENDOCRINES

From a study of 1400 quantitative necropsies, Freeman concludes that emotional stability and energy drive may be safely granted to the endocrine system but that as far as personality types are concerned, the endocrine glands seem to have little say in the matter.

For the past ten years psychotic patients dying at St. Elizabeth's Hospital have been submitted to necropsy with the various glands being removed, weighed, and examined histologically. In most cases photographs showing growth disorders and constitutional types of the body have been obtained beforehand and used for comparison in the study.

The four personality types named and described by Freeman are cycloid, paranoid, schizoid, and epileptoid. The author discusses each gland separately, giving the percentages of small glands or large glands in each type of personality. He concludes that the pituitary and the thyroid may be responsible for the energy drive that enables the personality to unfold and develop, but these glands, as well as the others discussed, are not directly responsible for personality trends in the individual, according to this study. A large percentage (forty-four per cent) of the epileptoid personalities were in the peristent thymus groups, whereas in the entire group, the proportion of this type is only 8.6 per cent. Freeman suggests further study in this regard.

Freeman, Walter: Personality and the Endocrines: A Study Based Upon 1400 Quantitative Necropsies, Annals of Internal Medicine 9:444-450, October 1935.

TREATMENT OF CHOREA WITH TYPHOID VACCINE

Ash and Einhorn feel that the intravenous injection of typhoid vaccine in the treatment of chorea may be of harm in the presence of carditis. In addition to cases from the literature, the authors' series includes seventeen patients with chorea treated with intravenous injections of typhoid vaccine. In four patients with uncomplicated chorea and in one with chorea and rheumatic carditis so treated there occurred a secondary rise of temperature from one to two weeks after the last injection of vaccine. In three patients with active carditis so treated there was evidence of increasing severity of the existing carditis, and one of these children died six weeks after the last injection. The other two improved. The authors conclude from their study that the use of typhoid vaccine in the presence of rheumatic infection is not harmless, but that a large proportion of patients with chorea do not present carditis. For these last, use of the vaccine seems justifiable. The sedimentation test has appeared to be the best single laboratory guide to the presence of rheumatic infection.

Since an early depression and subsequent rise of the number of granulocytes occurs during the febrile reaction following injections of typhoid vaccine, this method of therapy should be checked by frequent determinations of the white blood cell count.

This study shows that typhoid vaccine therapy does not prevent a recurrence of chorea.

Ash, Rachel, and Einhorn, Nathan: Use of Typhoid Vaccine in Treatment of Chorea, American Journal of Diseases of Children 50:879-887, October 1935.

CONVALESCENT BLOOD IN WHOOPING COUGH

In an effort to determine the value of convalescent serum and of immune whole blood in the prevention of whooping cough, Bradford makes a study of the literature and of fifty-eight children under three years of age. These children were given injections either of ten cc. of serum taken in the eighth week of convalescence or of from ten to twenty cc. of whole blood taken from an adult (usually a parent) who had previously experienced the disease.

Of this group, forty-four were obliged to remain in families in which one or more cases existed; twenty-seven received injections during the incubation period; fifteen cases developed of which ten (sixty-six per cent) were mild. There was one complication.

Of the control group of twenty children, eight (forty-one per cent) had a mild form of the disease, eight average, and four severe. Complications developed in four.

In seventeen children exposed in the family who received the preventive vaccine after symptoms of coryza existed, there was no evidence of modification of the course of the disease. Of sixteen patients exposed outside of the home, nine were given injections during incubation, and the number completely protected was so great as to suggest that the exposures may not have been genuine.

The author concludes from a study that immune blood is effective in the prevention and modification of whooping cough if given before the catarrhal symptoms appear. If the disease is established before the injection is given, favorable results are less apparent.

Bradford, William L.: Use of Convalescent Blood in Whooping Cough, American Journal of Diseases of Children 50:918-928, October 1935.

INFANTILE CONGENITAL SYPHILIS

A careful study of infantile congenital syphilis and the means of its diagnosis was made by Ingraham. Although there is no absolutely reliable method of diagnosis during the period immediately after birth when the disease does not manifest itself clinically, it is possible by means of a careful study of each case and the application of such diagnostic methods as do exist to detect infantile congenital syphilis while it is yet "curable."

About fifty per cent of children born of syphilitic mothers are infected. Thus whether all are treated or whether treatment is delayed until the clinical symptoms develop, the method will be satisfactory in only fifty per cent of cases. Since the special methods of diagnosis, by which it is possible to determine the presence of the disease early in life, are expensive, it is impractical to subject all living infants to such a study. The first essential, then, is the knowledge that the parents of the infant are diseased. Ingraham's experience shows that history and physical examination will arouse suspicion of the presence of syphilis in about eighty per cent of women of childbearing age harboring this disease, and routine blood serologic tests will detect it in about eighty-three per cent of cases.

The amount of prenatal antisyphilitic therapy to which the pregnant syphilitic woman has been subjected gives a good indication of the chances of obtaining a healthy child. An untreated syphilitic woman will give birth to a diseased child four times out of five, and infants born of syphilitic women who have been treated for the last five months of pregnancy are seldom diseased; however, it is not well to rely on these general tendencies. Every living infant born of a syphilitic mother should be given the benefit of special study.

Of the diagnostic methods used, physical examination of the child at time of birth is of value in not more than two to three per cent; blood serologic tests are of worth in about fifteen per cent but of absolute value in only about one to two per cent; the blood sedimentation rate has no absolute value; dark-field examination of the umbilical vein will reveal spirochetes in about twenty per cent; and roentgenographic examination of the long bones will show osteochondritis in about thirty per cent of such infants. The author found a combination of these methods will reveal in the first week of life at least half of the babies ultimately proved to be syphilitic and about three-fourths by the end of the second month. He feels that no infant suspected of having contracted the disease should be treated until he be proved to have it, provided such diagnostic methods as these are available.

Ingraham, Norman Jr.: The Diagnosis of Infantile Congenital Syphilis During the Period of Doubt, American Journal of Syphilis and Neurology 19:547-580, October 1935.

MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.
of the Medical Economics Committee

Editor's Note: Although the editor of this section, as a member of the Medical Economics Committee, is too modest to publish the following excerpts which appeared last month in other medical publications, the Editorial Board feels that the Society membership is entitled to know about the interest being evidenced outside of Kansas in the excellent work of this Committee:

From the Journal of the Indiana State Medical Association:

"Something or somebody has put a lot of pep into the Kansas State Medical Society. For some months now we have been observing a note of improvement in that organization, in one way or another. Now they come out with something spick, span, brand new, and something that is *good*. It is officially entitled "A symposium of miscellaneous topics pertaining to socialized medicine prepared by the Medical Economics Committee of the Kansas Medical

Society for Kansas debaters on this subject." It covers some twenty full-sized mimeographed pages and is replete with information of the sort that is "eaten up" by debaters on the subject, whether they be of the high school variety or grown-ups. They start with some of the affirmative declarations, giving attention to the rather widely distributed set sent out by the Pollak Foundation, and each declaration is met by an answer which is based on actual experience in the State of Kansas. The material is concisely presented and is so much to the point that every member of the medical profession could well spend an hour in its reading. We recommend that headquarters make some arrangement whereby this excellent matter may be widely disseminated in our state."

From the Illinois Medical Journal:

"Many plans are now being tried in different parts of the country to care for the indigent. The so-called Washington Plan appears to be one of the most successful and is being accepted in other parts of the country. It is quite intricate, and takes considerable money for the overhead, but is practical in Washington and should be in other cities of like size. How it would work in small communities is questioned by some. In Kansas the Medical Economics Committee has worked out a plan whereby all of the charity work is handled through the County Medical Society on a schedule of $1.00 per month for each individual on relief roles. This amount is paid by the Board of Supervisors or Relief Officials directly into the treasury of the local County Medical Society. The patients call the doctor of their choice and when he has completed the care of the case he sends his bill directly to the executive secretary of the County Medical Society and he pays the bill out of the funds received from either the Board of Supervisors or relief agencies. At once many objections and questions as to how this plan will work comes to mind. However, the officers of the Kansas State Medical Society inform us that the results have been most satisfactory in the counties that have used the plan the longest and that new counties are adopting the plan every week. They stress the importance of cooperation of the medical profession, insisting that every one must keep in mind the Golden Rule and not allow either personal cupidity or unreasonable demand on the part of the indigents to result in abuse of the demands on the treasury. They claim that the amount of overhead is surprisingly low and that in all instances the income from relief agencies justifies the expenditures to the medical profession and for executive workers. Surely, Kansas is to be commended for working out such a simple and yet workable plan and the rest of the states are giving this plan great consideration. It is possible that such a plan will help the physicians of Illinois to meet the present problem, resulting from the transfer of the care of the indigent from a township to a county responsibility."

From a bulletin of Madison County (Indiana) Medical Society:

"The effort to show up the necessity for Health Insurance has brought to it the backing of various foundations who are providing the ammunition for the National High School debates on the subject. So serious is the situation that the Kansas State Medical Society have issued a timely monograph on every phase of the subject, which to date is the best I have seen. Communication from State Headquarters verifies the advisability of every County Society in the State devoting their December meeting to a full consideration of this question. I hope no one will be disappointed if I take the liberty of reviewing the Kansas monograph, which is in the form of questions and answers, that I will briefly go over, with the hope that everyone will be sufficiently interested to later read in full. For it is written to meet every affirmative statement that can be brought out for the adoption of Health Insurance, as provided in these debates. We certainly should be prepared to answer not only the questions of High School students but also, answer intelligently any question we may be asked by any one. And from now on we are facing something that may prove worse than a temporary depression."

From the Journal of the Oklahoma State Medical Society:

"Among many subjects discussed at the conference of secretaries and editors, Chicago, November 14, 15, 1935, the Kansas Plan for Medical Care received both favorable and unfavorable comment, it appearing to some that there was danger in this plan as it might be extended to include the low income group and might be hard to discontinue at the expiration of Federal and State Relief. There was favorable comment in that it would bring to the physicians of the respective counties some income from the people who at this time are

receiving services without remuneration to the medical profession. It was also thought that this plan would teach the participants that they must again accept the responsibility of paying for medical care."

TWENTIETH CENTURY PHYSICIAN?

The following bit of history raises the question as to whether the physician's status has really changed very much since the tenth century.

Isaac Judaeus, the Jewish physician who, in the tenth century, practiced in Egypt, later emigrated to Mauretania and finally became court physician to Kairwan said "The chief task of the physician is to prevent disease. The majority of diseases are cured by Nature. Never employ more than one drug at a time. If thou hast the choice to effect a cure by nourishment or by drugs choose the former." His economic teachings are equally modern. "Demand thy fee of the patient when his illness is increasing or at it's height; when he is healed he forgets what thou hast done for him. The more thou demandest for thy treatment, the more highly thou esteemest thy cure, the higher wilt stand in the eyes of the people. Thy art will be held of no account only by those whom thou treatest gratuitously." O.W.D.

KANSAS STUDENTS DEBATE

It was reported that the Round Table Conference conducted at the Kansas State Teachers Conference held in Topeka, Kansas, recently brought out the following fact.

That a considerable number of the debate coaches in attendance had experienced difficulty in getting sufficient students to debate the affirmative side of the question on Socialized Medicine. The students felt that the weight of evidence was on the negative side of the question and they were hesitant to accept assignments on the affirmative.

The decision of the students who have considered both sides of the question certainly deserves the highest commendation. It is safe to assume that the student mind of Kansas is representative of all the other groups considering this subject. It is also safe to assume that the thinking people of the entire nation, after burdening themselves with a knowledge of both sides of the question, will render a decision that parallels that of the student bodies in our schools. O.W.D.

Some Experimental Findings on Blood Pathology

By M. Gerundo, M.D.

(Continued from page 15)

AGRANULOCYTOSIS

Agranulocytosis has been the object of numerous investigations in recent years. Since Schultze isolated the syndrome of agranulocytic angina, many other workers have demonstrated that it is possible to reproduce experimentally the picture of the disease by the injection of various substances, principally benzol and arsenic.

In the phenomenon of leucopenia many have pointed out the importance of the vegetative nervous system, and particularly of the parasympathetic. From the study of Zondek and Kraus it appears that the ions, potassium and OH, influence the parasympathetic, and that the action of K salts on the organs is identical to that exercised by the parasympathetic.

From very recent studies it has been demonstrated clearly that the typhoid toxin also inhibits the abdominal sympathetic, thereby producing a relative state of parasympathicotonia (Annales de Medecine, January and February, 1935.) In our experiment, five rabbits received six injections intraperitoneally of three cc. of a diluted typhoid toxin on alternate days, and five rabbits received four injections intraperitoneally of one cc. of potassium lactate. Another five rabbits received nineteen intravenous injections of one cc. of a one per cent solution of potassium lactate on alternate days. The rabbits receiving typhoid toxin presented a very marked leucopenia, with predominance of lymphocytes and monocytes, and presence of very few granulocytes. The bone marrow was depleted of granular cells and showed only erythroblasts and large cells of the hemocytoblastic type. The rabbits receiving potassium lactate showed, in blood smears, absence of granulocytes, presence of lymphocytes, monocytes, erythroblasts in very immature stage, and hemocytoblasts. The bone marrow revealed complete depletion of granular cells, with persistence of few erythroblastic nests and many degenerated cells. The tissue was replaced by numerous large cells of endothelial origin, hemohistioblasts, some provided with azurophile granulations and long wavy cytoplasma.

I mention the negative results obtained by means of chronic intoxication with sodium amytal and dial in rabbits. At all times in the

course of treatment, the blood smears showed a normal differential count. The bone marrow showed presence of all cells in normal proportions. Careful following up tests of patients under long protracted sodium amytal treatment did not reveal any great difference in the total and differential counts, except, possibly, a relative increase of lymphocytes and monocytes.

In reviewing the findings of the above experiments it is evident that the tyramine intoxication or an hemolytic process cannot explain the pathogenesis of pernicious anemia. While the writer believes that the disease originates in a form of endogenous intoxication, as proved by those cases with known etiology and by the good results of ventricular therapy, at the present time it is still a matter of uncertainty to assign one definite substance a principal role in the manifestation of the disease.

As to leukemia, the experiments have given a better result. The proteic intoxication gives pictures of hyperplasia, but I never have observed any particular character which is distinctive of leukemias. The streptococcus toxin is the one which produces, in spontaneous human diseases as well as in experimental conditions, characters very similar to those of the true disease. What is the real place of leukemia in human pathology? Not a tumor of the blood, as many authors would believe. The cells are immature but they belong to types normally found in the adult bone marrow, the anaplastic type being practically unknown. Anaplastic cells, which do not belong to an adult type of cells, and do not follow the normal lines of development, are found instead in pernicious anemia, in which the cell type, the megaloblast, derives from a cell which, in the adult, is never found in hematic orientation. I would be more inclined to consider leukemias as a blood granuloma developed under a toxic condition, most probably infectious. The leukemia of the fowl, due to a filterable virus, is a good example; and the leukemoid reaction obtained by stereptococcus toxin demonstrates such possibility.

The experiments with typhoid toxin and potassium lactate demonstrate clearly that agranulocytosis is not a definite entity, as the etiological agents are multiple and of various nature. It is a rather striking symptom, or complication, in the course of various diseases, but it cannot be considered as a separate syndrome. The pathogenesis is still obscure. It is difficult to understand why certain microorganisms, like the stereptococcus, stimulate a marked leucocytosis, or even a leukemoid reaction, while others, like the typhoid, bring on marked leucopenia with granulocytopenia. It has been noted that young infants usually have digestive leucopenia with neutropenia, and that some drugs acting on the sympathetic nervous system produce leucocytosis or leucopenia, according to their influence respectively on the sympathetic or parasympathetic.

It may be possible that a toxic influence on the vegetative nervous system determines changes in blood pictures more than we have considered possible.

Further studies on this subject may explain differences which appear to us obscure at the present time.

NEWS NOTES

DUES INFORMATION

1. The amount established by the House of Delegates for 1936 Society assessments remains the same as last year—$8.00 per member.
2. Pursuant to the Constitution and By-Laws all remittances must be forwarded to the secretary of the component society of membership.
3. Copies of the 1936 membership report were mailed to the various secretaries under date of December 23. It is hoped that all reports will be returned not later than March 15 in order that a complete membership roster may be prepared by April 1 to facilitate registration of Kansas members at the American Medical Association meeting in Kansas City, Missouri, on May 11-14. Your secretary will appreciate any assistance you can give toward that result.
4. The Society has established a 1936 goal of 1500 members and it is believed that the functions planned for this year will make that objective possible. If you know of an eligible and desired nonmember please recruit his interest in the activities of organized medicine.

WPA TRAUMATIC INJURIES

Information received from the Kansas WPA office under date of December 28 shows that approximately 300 persons have been provided with medical attention for traumatic injuries suffered in the course of work project employment.

In the same interview Mr. J. J. Poizner, state compensation officer, stated that almost all physicians are following the Kansas Workmen's Compensation schedule as a basis for fee claims and also requested we advise the Kansas profession that both he and Mr. Evan Griffith appreciate the excellent cooperation physicians are extending in the operation of this project.

FIRST AID PROGRAM

The following bulletin was directed to all county medical societies on December 19:

To: All Secretaries

We are advised by Mr. Carl Campbell, State Safety Consultant for the Kansas WPA, that instructions have been received from Washington to provide all WPA foremen with first aid courses. Also, that these shall be presented as follows:

1. In accordance with study outlines contained in the American Red Cross First Aid Book.
2. At convenient and centralized places.
3. By persons who are qualified to deliver first aid lectures.

Mr. Campbell has requested the assistance of the physicians of Kansas in this project, and is agreeable to a suggestion that medical speakers be obtained through the county medical societies rather than through selection of individual members by WPA representatives.

He has been furnished with a list of secretaries of the various societies, and is today instructing his district representatives to confer with the secretary of each county for a discussion of possibilities concerning local meetings.

Copies of study outlines will be available to physicians through the WPA, and in all probability no great amount of time would be required for preparation or delivery of lectures.

Although no compensation is to be offered for this particular service, it is believed that the Kansas WPA will greatly appreciate your help, and that the project will be of substantial public benefit.

Sincerely yours,
J. F. Hassig, M.D., President.

PUBLIC MEETING

Members of the Coffey County Medical Society sponsored a public meeting in the high school auditorium in Burlington on December 17. All residents of that community were invited to attend.

Dr. J. F. Hassig and Dr. L. F. Barney, Kansas City, were the featured speakers on the program and their subjects were respectively as follows: "Medical Care in the Future" and "How Health and Longevity Can Be Easily Secured."

BRINKLEY APPEAL

John R. Brinkley's appeal of the case against the Kansas Board of Medical Registration and Examination, which he recently lost in the United States District Court, has been set for hearing in the United States Circuit Court of Appeals at Oklahoma City, Oklahoma, on January 21, 1936.

If this case is also lost, Brinkley has only one remaining appeal—the United States Supreme Court.

Attorneys for the Society are O'Neil and Hamilton of Topeka, and attorneys for the Board are the Attorney General and Mr. W. C. Ralston, of Topeka.

FIFTY YEARS

Through the courtesy of the Wilson County Medical Society, the central office has received a copy of the paper presented by Dr. A. C. Flack, Fredonia, at the recent banquet given by that society in his honor. The interesting viewpoint of a physician who has completed fifty years of practice is reproduced below for the benefit of all members:

"Fifty years in the practice of medicine in the same locality! It seems a long time looking forward, but not so long looking back. What a wonderful fifty years it has been in the progress of medicine and the world in general! No other fifty years in the history of the world can be compared with it. More marvelous things have come to light in the past century than in any five preceding centuries. I am not sorry that I was born back yonder seventy-seven years ago and that in a few more years I will pass on. I have none of Ponce de Leon's ambition to drink of the mountain of eternal youth and I do not envy the feeble wandering Jew with his life everlasting.

Had I my pick of time to live, in all the past or in all the future, I would pick the exact age in which I have lived. Think of what progress has been made in the past half century, not only in medicine but in science and art. Fifty years ago the science of bacteriology was in its infancy. Few indeed, even in the medical profession believed that bacteria were a causative factor in disease. Only a short time ago they celebrated the fiftieth anniversary of Pasteur's treatment of his first case of rabies and the patient is still living. Less than fifty years ago, Koch discovered the bacillus of tuberculosis, the 'Captain of the Men of Death.' This was the beginning of the annihilation of the Great White Plague and is a more important victory for mankind than that resulting from the Fifteen Decisive Battles of the world.

Medicine is the only profession that is literally and altruistically devoted to professional suicide. It endeavors, chiefly, not alone to cure but to prevent disease and then to banish from mankind, pain, suffering and ultimate death from maladies of the flesh. But what it cannot prevent, it must cure; what it cannot cure, it must palliate. Typhoid fever, one of the scourges of the past century, is now a preventable disease; there were only 158 deaths from that cause among the 4,000,000 American soldiers in the World War.

For four centuries, the Panama Canal Zone was called, 'The White Man's Grave,' but under the matchless genius of Gorgas, who banished yellow fever, it was made the healthiest spot on earth and enabled the building of the Panama Canal.

The discovery of the x-ray by Roentgen in 1896, soon followed by the discovery of radium by Madame Curie, was a triumph in wresting another secret from the physical world and furnished another weapon for the cure of certain forms of cancer. The use of safe drugs for local injection in rendering surgical operations painless is now like a performance in a magic world. Antitetanic serum to prevent lockjow is the king of preventive serums.

The discovery of the four types of blood by Mall made possible transfusions. The whole world is indebted to the inventors of many diagnostic instruments of precesion, such as the basal metabolism machine, blood pressure apparatus, the electrocardiogram and many other valuable aids in diagnosis.

Fifty years ago we knew little about the ductless glands and less of their function. Twenty years ago we had no remedy to rescue the diabetic patient until the wizard, Banting, discovered insulin. I might go on and mention perhaps a hundred important discoveries in the field of medicine to prove that more progress has been made in the past fifty years than in any preceding five hundred years. Not only in medicine has great progress been made in the past half century, but in all the arts and sciences. Mechanical engineers tell us that there will be no radically new inventions for a hundred years or more. Genius will have all its time and ingenuity taken up, developing the possibilities of the principles already discovered.

During the past fifty years, I have seen the world revolutionize in a mechanical way. The telephone was invented within my memory. When I was a boy, the tallow candle was the universal lighting system and well do I remember when the coal oil lamp came into existence. Later, owing to the genius of Thomas A. Edison, the sputtering carbon arc lamp lighted up the streets and parks. The incandescent lamp that we have now came later. In 1880 I paid a small fee to see that marvelous invention, the phonograph. The wax cylinder had not been invented. The record was made on tin-foil wrapped around the metal cylinder and the machine was turned by hand. The moving picture machine, the talkie and that marvel of the ages, talking through space without a wire. Twenty-five years of my time in the practice of medicine were spent in horse and buggy days. I loved the spirited horse and loved to drive it, but in bad weather I felt sorry for the animals and often made the statement that the time would come when I would ride over the roads in a buggy not drawn by a horse. Edison was working on the storage battery and I expected it to furnish the power that would drive me hither and yon. My hope was realized and I did ride in a buggy propelled by electricity. However, about this time the gasoline engine was invented and we now speed over the highways in chariots far surpassing those of ancient kings and wonder if the time is not near when we will go where we please in individual airplanes. It is not at all improbable.

These are just memories of changes that I have seen since I have been here in this delightful old world. What a lot of fun it has been! What a joyous time we have living, we who have been here fifty years. There will never be another fifty years in history which can hold a candle to the last fifty. A thousand years from now, the last fifty years will take up more space in history than any fifty before or after. I am glad I was here when it all happened. It has been a privilege to live and I could almost shed a tear for those nice old chaps who lived and died before fifty years ago and missed it all. They never experienced the thrill of riding through the country at a mile a minute. They never imagined that we would see man out-stunting the birds in the air. They never dreamed of listening to bottled-up music at their pleasure or hearing the melody of the Metropolitan Opera Company of New York City on Sunday afternoons or while baling hay in the meadow, listening to the world's series play-by-play. I am not the least bit envious of those twenty-one-year-old boys just breaking into life. Poor chaps, they just came along after everything had happened. We fellows around seventy-seven are going to take off into the stratosphere before long, but believe me, we have lived!

SECRETARIES CONFERENCE

The conference of secretaries and editors of state medical societies, conducted annually by the American Medical Association, met at the Palmer House in Chicago on November 15 and 16. Eighty-five representatives attended and those from Kansas were: Dr. J. F. Hassig, president, Dr. F. L. Loveland, chairman of Medical Economics Committee, and Clarence G. Munns, Executive Secretary. Dr. E. A. Meyerding of the Minnesota State Medical Association was elected as chairman of the conference. The following program was presented:

An address by Dr. James McLester, president of the American Medical Association, describing medical conditions in Soviet, Russia, as he found them during his attendance at the Physiology Conference in Moscow last summer. In his opinion the Russian type of state medicine has created an inefficient and unsympathetic type of medical practice.

Dr. W. D. Cutter, secretary of the Council on Medical Education and Hospitals of the American Medical Association, emphasized the need for close cooperation between the state and county medical societies and the Bureau toward a further betterment of standards for medical practice and hospitals. He recommended also the establishment of a national board for examination of specialists.

Dr. P. N. Leech, secretary of the Council on Pharmacy and Chemistry of the American Medical Association, described the work of the Council in analyzing pharmaceutical preparations and in exposing carelessly prepared and dangerous products. He mentioned the need of further state and national legislation to regulate problems of this kind and used as an illustration the present erroneous information concerning vitamins that has been circulated in the lay press and advertisements. The suggestion was made that the state and county medical societies attempt to promote efforts for closer cooperation between physicians and the Council. At this point of the meeting Dr. Morris Fishbein, editor of the Journal of the American Medical Association, deplored the fact that the New Jersey Medical Society had actively opposed the work of the Council on Pharmacy and Chemistry and described some of the difficulties that have followed this procedure.

Mr. George Crownhart, executive secretary of the Wisconsin State Medical Society, presented a paper describing the medical economic activities of the Wisconsin State Medical Association. He stated that the Wisconsin profession believes that the indigent sick should have free choice of physicians through the medium of county medical society contracts with a reasonable compensation provided by the various counties, also, that for the low income groups, county medical society bureaus for investigation and institution of installment principles should be operated, at least in the larger municipalities.

Dr. Ralph H. Pino, president of the Wayne County Medical Society, Detroit, discussed a post-graduate plan in use at Harper Hospital in Detroit, wherein members of the staff specialize in research on particular subjects for presentation of facts and literature at regular meetings

of the staff held each Friday morning. Approximately 100 subjects have been delegated in this manner and that after a considerable period of operation their staff feels that many advantages have resulted.

Dr. F. C. Warnshuis, executive secretary of the California Medical Association, criticised the above plan from the standpoint that hospital centers of postgraduate instruction minimize interest in county medical societies and outlined the California method wherein the four medical schools in that state arrange centralized courses through cooperation with medical organizations.

Dr. J. Tate Mason, president-elect of the American Medical Association, spoke concerning the present policies of the medical profession against socialization and recommended that the various state societies increase their efforts for acquainting the profession and laity with the seriousness of systems of that kind. He stressed also the excellent assistance the American Medical Association has given in that regard and asked that the various members aid rather than criticize the parent organization.

Dr. E. M. Shanklin, editor of the Journal of the Indiana State Medical Association, defended the policies of the American Medical Association and urged that further effect be made through the state medical journals for an improvement of understanding of all matters in which that organization is now active. He suggested the advisability of a coordinating unit between the American Medical Association and the state journals, praised the Cooperative Medical Advertising Bureau for its assistance in securing advertising, and illustrated in particular the need for supporting the Bureau of Investigation and Council of Pharmacy and Chemistry.

Dr. D. F. Harbridge, secretary of the Arizona State Medical Association, presented a plan wherein the various state medical societies would be divided into six sections as sub-divisions of the American Medical Association. It was his opinion that this method would provide a stronger organization and unity of action.

Dr. Morris Fishbein, in a talk on medical organization reviewed the origin and development of the large number of special and unofficial societies that have advanced into medical organization. He pointed out the needless expense and decentralization of organization many of these societies have occasioned.

Following the general meeting, a separate conference of editors was held at which the following topics were discussed:

1. The advisability of copyrighting state journals to prohibit garbled quotations by propagandists.
2. The propriety of accepting liquor advertisements.
3. The amount of commissions paid by the state journals to the Cooperative Medical Advertising Bureau.
4. The extent to which complimentary copies of journals should be permitted.
5. Post-office regulations regarding the mailing of journals.
6. Exchanges with the bulletins of county medical societies.
7. Policies in effect for discontinuing journal subscriptions of unpaid members.
8. Mention of non-approved drugs in scientific articles.
9. Editorial campaigns toward obtaining a greater number of fellows of the American Medical Association.
10. Uniform arrangement of indexes in the various journals.
11. Supervision of articles and editorials by editorial committees.
12. The use of local solicitors for increasing advertising.

It was generally believed that the conference was the best ever held and arrangements were made for enlarging its program next year.

WESTERN SURGICAL ASSOCIATION

The Western Surgical Association met in Rochester, Minnesota, December 4-7. The Mayo Clinic gave a preliminary program acting as hosts for two days. Dr. Earl C. Padgett, University of Kansas School of Medicine, gave a paper on "Treatment of Cleft Palate." Other Kansas members in attendance were Dr. L. F. Barney and Dr. C. C. Nesselrode, Kansas City; Dr. T. G. Orr and Dr. L. P. Engel, University of Kansas School of Medicine; Dr. H. W. Horn, Wichita and Dr. J. L. Evans, Wichita; Dr. W. M. Mills, Topeka, and Dr. F. R. Teachenor.

Dr. T. G. Orr, was elected president and Kansas City, Missouri, was chosen as the next meeting place in December 1936.

THE NEW PHARMACOPOEIA

The new Pharmacopeia, the Eleventh Revision, will be available on December 16th next. This date has been fixed by the Board of Trustees of the United States Pharmacopoeial Convention to enable the publishers, the Mack Printing Company of Easton, Pennsylvania, to place books on sale in all parts of the country simultaneously.

As directed by the U.S.P. Convention, the Board of Trustees has also fixed the date when the standards of the new Pharmacopoeia shall become official, superseding the Tenth Revision. This date is June 1, 1936.

The following articles have been added to the Pharmacopoeia:

Acriflavina, Acriflavinae Hydrochlordium, Aethyleum, Aethylhydrocupreinae Hydrochloridum, Aethylis Oxidum (Solvent Ether), Antitoxinum Scarlatinae Streptococcicum, Bismuthti et Potassii Tartras, Calcii Creosotas, Calcii Gluconas, Calcii Hydroxidum, Carbo Activatus, Carbonei Dioxidum, Chlorobutanol, Digitalis Pulverata (Biologically standardized), Emulsum Petrolati Liquidi (50 per cent), Ephedrina, Ephedrinae Hydrochloridum, Ephedrinae Sulfas, Erythritylis Tetranitras Dilutus (Erythrol Tetranitrate), Extractum Hepatis, Ferri et Ammonii Citrates Virides., Fluoresceinum Solubile, Histaminae Phosphas, Hydrargyri Succinimidum, Iodophthaleinum Solubile, Liquor Ergosterolis Irradiati (Viosterol), Liquor Hepatis, Liquor Hepatis Purificatus, Liquor Histaminae Phosphatis, Liquor Parathyroidei, Liquor Sodii Hypochloritis (4 per cent), Merbaphenum, Neocinchophenum, Oleum Iodatum, Oleum Maydis, Oleum Morrhuae Non-destearinatum, Oleum Rosae, Phenacainae Hydrochloridum, Phenobarbitalum Solubile, Pulvis Chinifoni, Serum Antimeningococcicum, Serum Antipneumococcicum—I, Sodii Perboras, Sodii Stearas, Stomachus, Tabellae Glycerylis Trinitratis, Theophyllina cum Ethylenediamina, Theophyllina cum Sodii Acetate, Tinctura Iodi Mitis (2 per cent), Toxinum Diphthericum Detoxicatum, Toxinum Diphthericum Diagnosticum, Toxinum Scarlatinae Streptococcicum, Toxitabellae Hydrargyri Bichloridi Parvae, Tryparsamidum, Tuberculinum Pristinum, Vaccinum Rabies, Vaccinum Typhosum, Vaccinum Typho-paratyphosum.

COUNTY SOCIETIES

The Allen County Medical Society held its regular meeting on December 13 in Iola and the following officers were elected for 1936: Dr. O. L. Garlinghouse, Iola, president; Dr. H. L. Hendricks, Iola, vice-president; Dr. F. L. B. Leavell, Iola, treasurer and state meeting

delegate; Dr. C. B. Stephens, Iola, secretary; Dr. L. F. Schmous, Iola, censor and Dr. J. T. Reid, Iola alternate delegate.

Members of the Barton County Medical Society held a dinner-meeting in Hoisington on December 12 at the home of Dr. and Mrs. T. J. Brown. An election of officers also was held and the present officers were re-elected for 1936.

At a meeting of the Bourbon County Medical Society in Fort Scott on December 16, the present officers were unanimously reelected to serve during 1936. Dr. E. R. Deweese, Kansas City, Missouri, and Dr. C. C. Conover, Kansas City, Missouri, were speakers.

The following officers were elected for 1936 at a meeting of the Brown County Medical Society on November 28 in Hiawatha: Dr. W. G. Emery, Hiawatha, president; Dr. H. J. Deaver, Sabetha, vice-president; Dr. R. W. Wyatt, Morrill, secretary; Dr. R. T. Nichols, Hiawatha, treasurer; and Dr. E. J. Leigh, Hiawatha, censor. The meeting was also devoted to discussion of The Kansas Medical Society Plan.

A dinner-meeting of the Central Kansas Medical Society was held on December 5 in Ellsworth preceded by a program at an afternoon session. Dr. B. A. Higgins, Sylvan Grove; Drs. Ellis W. Wilhelmy, Ferdinand C. Helwig, and O. J. Dixon, all of Kansas City, Missouri, were speakers.

The Cherokee County Medical Society held a meeting on December 10 in Columbus in the office of Dr. H. H. Brookhart. Future plans of that society were discussed.

Members of the Clay County Medical Society were hosts to the members of the Washington County Society at a dinner-meeting in Clay Center on December 18. Election of officers was held as follows: Dr. O. U. Need, Sr., Oak Hill, president; Dr. Wm. VanScoyoc, Clifton, vice-president; Dr. F. R. Croson, Clay Center, secretary-treasurer; Dr. W. R. Morton, Green, censor. Dr. W. F. Bowen, Topeka, was the guest speaker on the program.

A meeting of the Cloud County Medical Society on December 9 in Concordia was held for the purpose of discussing the recent diphtheria immunization campaign held in that county.

Dr. L. M. Beatson, Arkansas City, presented a paper on "Angina Pectoris" before members of the Cowley County Medical Society at a meeting in November at Winfield.

Dr. W. A. Parrish, Mulberry, was elected president for 1936 of the Crawford County Medical Society at a meeting held in Pittsburg on December 12. Dr. O. G. Keller, Franklin, was elected vice-president, and Dr. C. D. Bell, Pittsburg, as secretary-treasurer.

The following officers were elected for the coming year at a meeting of the Douglas County Medical Society in Lawrence on December 5: Dr. V. M. Auchard, Lawrence, president; Dr. A. S. Anderson, Lawrence, vice-president; Dr. J. M. Mott, Lawrence, secretary; and Dr. E. M. Owen, Lawrence, treasurer. A paper "Immunity and Clinical Medicine" was presented by Dr. N. P. Sherwood.

The Edwards County Medical Society held election of officers at a meeting in Kinsley on December 12. The following were elected for 1936: Dr. W. P. Stoltenburg, Kinsley, president; Dr. L. M. Schrader, Kinsley, vice-president and state meeting delegate; and Dr. F. G. Meckfessel, Lewis, secretary-treasurer.

At a dinner-meeting of the Harvey County Medical Society held in Halstead on December 2, Dr. G. A. Westfall, Halstead, was elected president of the society for the coming year. Other officers elected were: Dr. A. L. Pettis, Newton, vice-president; and Dr. A. S. Hawkey, Newton, secretary-treasurer. Dr. J. T. Axtell, Newton, gave a paper on "The Truth About Coffee" and Dr. L. W. Hatton, Halstead, spoke on "Diagnosis and Treatment of Pellagra."

Members of the Johnson County Medical Society held a meeting in Kansas City on December 9 preceded by an osteomyelitis clinic supervised by Dr. J. B. Weaver and Dr. T. G. Orr. The election of officers for 1936 was held as follows: Dr. James B. Weaver, Kansas City, president and state meeting delegate; Dr. A. S. Reece, Gardner, vice-president; Dr. Frank Tolle, Overland Park, secretary; Dr. Edmer Beebe, Olathe, treasurer; Dr. H. R. Wahl, Kansas City, censor; Dr. D. E. Bronson, Olathe, alternate delegate.

Dr. Joseph Skaggs, Leavenworth, was elected president of the Leavenworth County Medical Society at a meeting held in Leavenworth on December 9. Dr. Wm. Pratt, Leavenworth, was elected as vice-president, and Dr. Robert Moore, Lansing, as secretary-treasurer.

The following officers were elected at a meeting of the Linn County Medical Society held in Mound City on December 2: Dr. S. D. Morrison, La Cygne, president; Dr. L. D. Mills, Mound City, vice-president; and Dr. H. L. Clarke, La Cygne, secretary.

The Lyon County Medical Society held a dinner-meeting on December 3 in Emporia and the following officers were elected for 1936: Dr. C. F. Hoover, Saffordville, president; Dr. J. J. Hovorka, Emporia, vice-president; and Dr. J. H. Munger, Emporia, secretary. Case reports by Dr. O. J. Corbett, and Dr. F. A. Eckdall, both of Emporia, were presented as a program.

A joint meeting of the Montgomery County Medical Society and its Auxiliary was held in Coffeyville on December 13 for the purpose of electing officers for the coming year. The following were elected by the society: Dr. H. J. Bagby, Coffeyville, president; Dr. G. C. Bates, Independence, vice-president; Dr. C. O. Shepard, Independence, secretary-treasurer; Dr. Fred Gasser, Cherryvale, censor; and Dr. O. W. Ellison, Independence, and Dr. I. B. Chadwick, Coffeyville, as state meeting delegates.

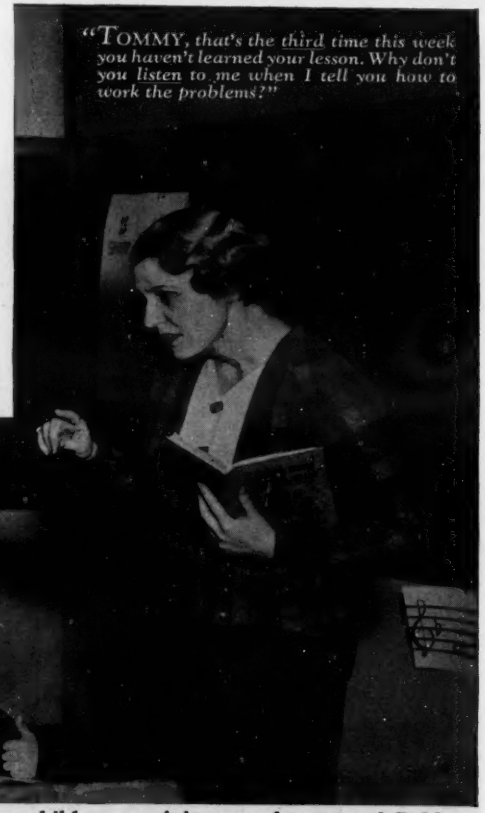
Dr. Charles Rombold, Dr. R. A. West, and Dr. J. G. Missildine, all of Wichita were speakers at a meeting of the Pratt County Medical Society in Pratt on November 22.

Members of the Riley County Medical Society held an election for 1936 officers at their meeting on December 4 in Manhattan. Dr. Darrel L. Evans, Manhattan, was elected president; Dr. H. T. Groody, Manhattan, vice-president; Dr. L. G. Balding, Manhattan, secretary-treasurer; and Dr. Willard C. Schwartz, Manhattan, board of censors. Members of the Fort Riley Hospital staff, Clay County Medical Society and members from Junction City and Wamego, were guests of the society. Dr. Logan Clendening, and Dr. Nelse Ockerblad, both of Kansas City, Missouri, were the principal speakers.

A Poor Scholar . . . because of a Poor Breakfast

MANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school.

Pablum offers a happy solution to the problem of the school-child's breakfast. Mothers who learn about Pablum from their physicians are delighted to serve it for it needs no cooking and can be prepared in a minute at the table—more quickly than many less nourishing foods. Pablum not only ends the bane of long cooking of cereals but in addition furnishes a variety of minerals (calcium, phosphorus, iron, and copper) and vitamins (A, B, G, and E) not found so abundantly in any other cereal.


"TOMMY, that's the third time this week you haven't learned your lesson. Why don't you listen to me when I tell you how to work the problems?"

PABLUM is rich in calcium and iron, minerals likely to be deficient in the school-child's diet yet needed in more than average amounts during childhood. Pablum is 6 times richer than fluid milk in calcium and contains 10 times more iron than does spinach. It also furnishes generous amounts of vitamins B and G, essential for normal appetite. Unlike other cereals, Pablum is base-forming, important because the growing child needs to store alkali. The nutritional value of Pablum is attested in studies by Crimm *et al* who found that tuberculous children receiving supplements of Pablum showed greater weight-gain, greater increase in hemoglobin, and higher serum-calcium values than a control group fed farina. Reprint sent on request of physicians. Mead Johnson & Company, Evansville, Ind., U.S.A.

Pablum (Mead's Cereal thoroughly cooked) is a palatable cereal enriched with vitamin– and mineral–containing foods, consisting of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, iron salt, and sodium chloride.

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Dr. D. B. Parker, Ransom, was elected president for 1936 at a meeting of the Rush-Ness County Medical Society in La Crosse on December 3. Other officers elected were as follows: Dr. T. F. Brennan, Ness City, vice-president; Dr. W. J. Singleton, La Crosse, secretary-treasurer. Speakers on the program included Dr. John F. Dillon, Larned, who talked on "Psychosis"; Dr. A. C. Armitage, Kinsley, on "The State Medical Society"; and Dr. Otto Hennerick, Hays, on "Otitis Media."

The Sedgwick County Medical Society held its annual Christmas party on December 16 in Wichita, with the Rev. J. Henry Hornung, Wichita, as the guest speaker. The newly elected officers of the society were introduced as follows: Dr. G. E. Milbank, president; Dr. A. W. Fegtly, vice-president; Dr. F. L. Menehan, secretary; and Dr. J. W. Shaw, treasurer, all of Wichita.

The annual meeting of the Shawnee County Medical Society was held in Topeka on December 2. The following officers will serve during 1936: Dr. J. H. O'Connell, president; Dr. G. A. Finney, vice-president; Dr. Milton B. Miller, treasurer; Dr. Earle G. Brown, secretary; Dr. H. B. Talbot, board of censors; all of Topeka. There were 122 members and their wives in attendance at the meeting.

Dr. John L. Kilenheksel, Wichita, Dr. Fred J. McEwen, Wichita, and Dr. Howard E. Marchbanks, Pittsburg, were speakers at a meeting of the Southeast Kansas Medical Society in Parsons on December 18. Their subjects were respectively: "Diabetes," "Interesting Cases in Internal Medicine," and "Clinical Significance in the Systolic Murmur."

The Washington County Medical Society held its regular meeting in Washington on December 10. The following officers were elected for the coming year: Dr. V. J. Wall, Mahaska, president; Dr. L. J. L'Ecuyer, Greenleaf, vice-president; and Dr. D. A. Bitzer, secretary-treasurer.

Dr. L. B. Spake, Kansas City, spoke on "Indications for Surgery of the Mastoid Process" and Dr. O. W. Davidson, Kansas City, spoke on "Viscero-Renal Reflexes," at the December 3 meeting of the Wyandotte County Medical Society in Kansas City.

MEMBERS

Dr. A. C. Antony, formerly of Clyde, but who recently moved his office to Concordia, has returned to Clyde where he will again establish his office. He has been taking postgraduate work in surgery and medicine at the Pennsylvania State University at Philadelphia for the past year and since that time had located in Concordia.

Dr. W. F. Bernstorf has returned from a trip through Europe and will locate permanently in Winfield. He spent five months studying in the University of Vienna and took work in specialized gynecology, surgery and pathology.

Dr. W. A. Carr, Junction City, is home from an eight weeks study period in the New York Post Graduate Hospital.

Dr. W. A. Creviston, formerly of Olsburg, has located his office in Manhattan where he will continue his practice.

Dr. John Clifton, Vermillion, has been appointed Marshall County Health Officer.

Dr. Earle G. Brown, State Board of Health, Topeka, read a paper on "Farm Accidents" before the joint meeting of the American Association for Labor Legislation and the American Farm Economic Association, on December 28 at the Hotel Commodore in New York City.

Dr. A. B. Harrison, Herington, has received an appointment as resident interne in the department of dermatology of the New York Medical School and Hospital for a term of three years.

Dr. John A. Dillon, Larned, attended a meeting of the Missouri-Kansas Society of Psychiatrists held in Osawatomie during the second week in December.

Dr. Clifton Hall, state director of the Tuberculosis Division of the State Board of Health, Topeka, spoke in Holton on December 13 on tuberculosis testing for school children.

Dr. Charles Pokorny, has been elected to membership in the Russ-Ness County Medical Society, and has established his offices in Attica.

Dr. Leroy W. Shepard, Larned, has been elected secretary of the American Medical Association in Vienna, where he has been studying for the past few months.

Dr. R. B. Stafford, State Board of Health, Topeka, spoke before the Clay Center Parent-Teacher's association, during the second week in November.

Dr. James A. Wheeler, Newton, was awarded a fellowship in the American Academy of Pediatrics, which met in Evanston, Illinois, the first week in December.

Drs. L. P. Engel, Jos. E. Welker, and H. R. Wahl, from the University of Kansas School of Medicine, and Dr. G. M. Tice, from the Bell Memorial Hospital, Kansas City, were visiting instructors at a post graduate clinic held in Beloit by the Community Hospital staff in November.

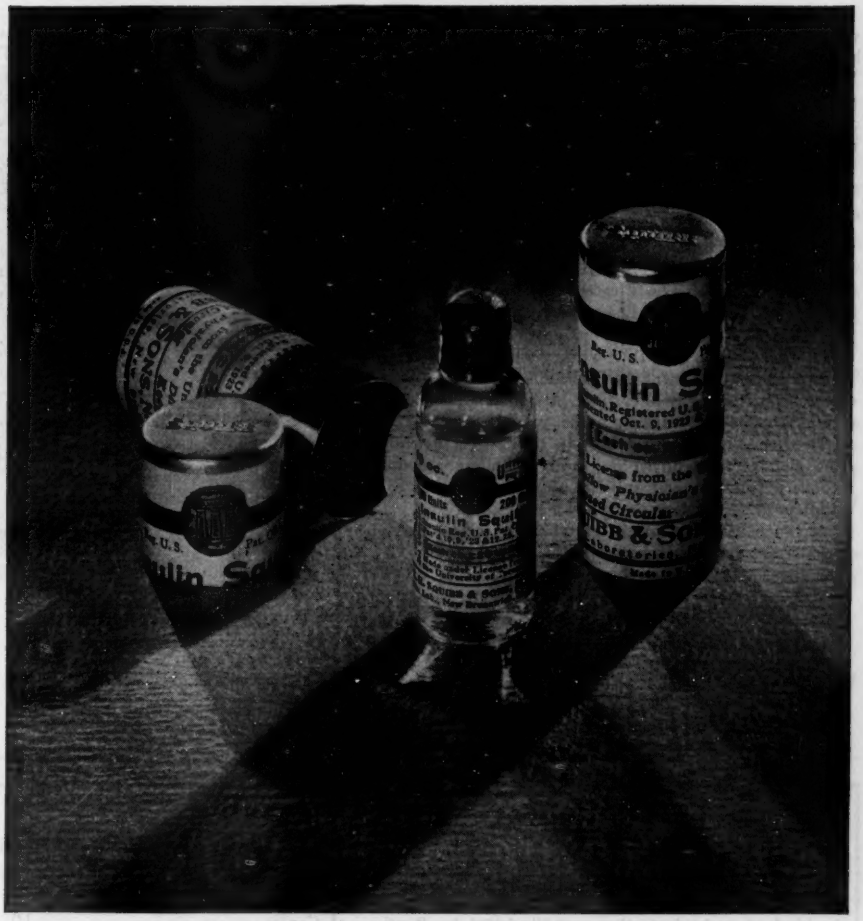
Dr. C. C. Nesselrode, chairman of the Cancer Committee, and Dr. F. L. Rector, field representative of the American Society for the Control of Cancer were in Topeka on December 11 for a conference with Dr. Earle G. Brown as to the possibilities for including a cancer post-graduate project in the Kansas Social Security Act plan.

Dr. M. E. Pusitz, Topeka, has recently received the certificate from the American Board of Orthopedic Surgery and has been elected to the Clinical Orthopedic Society and the American Academy of Orthopedic Surgeons.

BOOK REVIEWS

HUMAN ANATOMY. Two volumes, First and Second Dissection, by Dudley J. Morton, Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University. Published by Columbia University Press, New York City. Price $6.00.

These volumes present a very carefully worked out plan for the medical student in the dissection of the human body. They cover not only the anatomical



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structures but stress as well the function and the method by which such function is secured.

The instructions for the dissection are clear, concise and apparently complete, together with directions for corollary reading. There are also spaces for the notes made on each dissection, which may be used as a review.

These should be very valuable books for the student of anatomy.

C. E. Joss, M.D.

TREATMENT OF DIABETES MELLITUS, The fifth edition of The Treatment of Diabetes Mellitus, by Elliott P. Joslin, M.D., revised and rewritten and published by Lea & Febiger is now available to the medical profession. In this work Joslin gives his experience in the treatment of Diabetes in the past thirty-seven years, during which time he has treated 13,000 cases. The book summarizes the vast progress in the study of the disease, particularly in relation to the endocrine glands. The physiology and pathology are gone into very fully as these subjects are quite essential to a complete undertsanding and shows how coma and gangrene can often be avoided. He also makes considerable point of the danger of obesity.

Owing to the fact that there is estimated to be 500,000 cases of diabetes in the United States it is quite important that every physician have as complete an understanding of the disease as possible. Dr. Joslin's collaborators with their special research have contributed much to the broadening of the text.

The book has twenty-seven chapters each dealing with a certain phase of this disease. Chapter one defines diabetes and gives the present conception of the disease. Chapter two treats of the Incidence of Diabetes. The etiology and prevention of the disease are in chapter three. The book continues with the physiology, pathology etc. down to the very definite description of food values and feeding.

Dr. Joslin feels that diabetes is a disease to be treated by young men fresh from school and laboratories with the kind of enthusiasm that was displayed by Banting and his collaborators in their enthusiasm and tireless efforts. Dr. Joslin makes a plea for everyone to help in the fight against diabetes. He also feels that diabetes will continue to run rampant in certain families as long as obesity is disregarded. This work is a happy combination of scientific and clinical experience which he so readily shares with all and I think this edition will be found most useful.

J. G. Stewart, M.D.

The SPASTIC CHILD by Marguerite K. Fischel, St. Louis, The C. V. Mosby Company, 1934. $1.50. The author relates a case of spastic paralysis, her own child, treated successfully by conservative measures. Although the author seems unaware of the fact that almost every standardized Orthopedic Clinic has a routine treatment for cases of spastic paralysis and that the operative procedures form a minor portion of this routine, she has presented a very excellent portrayal of what can be done in these cases. She has divided her book into different periods in the child's life up to the age of sixteen and has given in a most excellent fashion her treatment for the child in each of these periods. The treatment essentially consists of relaxation, the production of simple movements, muscular re-education, postural routine and foot routine. This is followed by combinations of simple movements to produce co-ordination. The child receives speech corrective work which while she gave it in a rather unorganized fashion was yet an excellent routine. She has been able by these means to produce a child who at the age of sixteen instead of being a severe spastic is able to carry on the regular routine in life and is going to continuation school. Her treatment is by no means ended but her progress up to this age has been such as to give an excellent prognosis for the future of her boy. It forms a very interesting document proving the contentions of Orthopedists who have stressed conservative routine rather than operative intervention and who have used operative surgery only as an incident and as an aid to the treatment.

M. E. Pusitz.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending December 21	Month ending November 28
Chickenpox	604	506
Scarlet Fever	572	524
Pneumonia	193	136
Mumps	176	166
Whooping cough	98	124
Tuberculosis	78	111
Diphtheria	70	82
Gonorrhea	63	63
Syphilis	62	103
Smallpox	29	36
Influenza	29	23
Measles	25	24
Typhoid Fever	14	31
German Measles	11	13
Erysipelas	11	13
Meningitis	11	4
Cancer	10	8
Undulant Fever	9	15
Vincent's Angina	6	9
Encephalitis	5	4
Poliomyelitis	3	7
Pink-eye	1	3

DEATH NOTICES

Dr. Henry Fuller Pratt, 74 years of age, died in Topeka on November 3. He was born in Kasuth, Ohio, in 1861 and attended the Ohio Medical College in Cincinnati, graduating in 1884. He was licensed in Kansas in 1901 and located in Rossville. He retired from active practice in 1919.

PUBLIC HEALTH NOTES

Published through the courtesy of the Kansas State Board of Health

Sixty-five undulant fever deaths were reported in the United States in 1934.

It is said that "With its steadily mounting toll of death, disability and disfigurement, the automobile is more to be feared than many serious diseases."

● Cute little devil—he can't say much, but he can see! Already those eyes of his have begun their work—that of flashing visual impressions to his brain. But with what accuracy they function it's too early to know. In a few years, he'll be going to school and if his eyes need correction, you'll find it out. And that's where we'd like to be of service—in making the prescription you find necessary into sturdy glasses that will help him see normally. . . . We in this organization like our work. To us, the ability to help preserve good vision is a pleasant task that we discharge with all the care and precision at our command. We'd welcome the opportunity of serving you and your patients through our 70 conveniently located offices from Chicago to the Pacific Coast.

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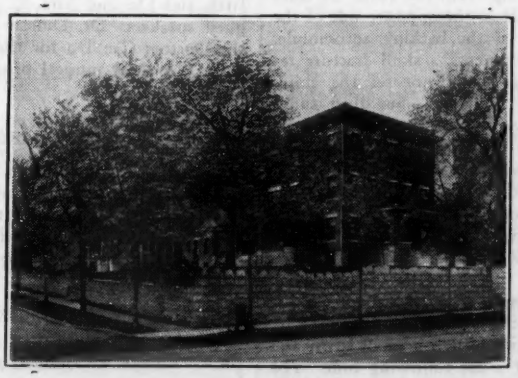

Nervous
Diseases
Selected
Mental
Cases.
Alcohol
Drug and
Tobacco
Addictions

Beautifully situated in a pleasant residence section of the city. Fully equipped and well heated. All pleasant outside rooms. Large lawn and open and closed porches for exercises. Experienced and humane attendants. Liberal, nourishing diet. Resident physician in attendance day and night.

The Water and Sewage Laboratory of the Division of Water and Sewage completed 3,766 bacteriological and chemical analyses in the state during the past three months.

Of the seven diphtheria deaths occurring in November, five were of the laryngeal type. Thirty-five diphtheria deaths were reported for the first eleven months in 1935 and thirty-four for the same period in 1934.

During October, 23,300 cases of syphilis were reported in the United States.

The 1935 provisional infant mortality rate for Kansas is 48.8.

There were ninety-four cases of epidemic meningitis for 1935 reported in Kansas to December 14.

Of the 3,730 children tuberculin-tested in the past three months, 373 or nineteen per cent were positive.

A report of 18,474 deaths has been recorded to December 1, as compared with the 18,017 in the same months of 1934.

—JKMS—

In the fiscal year ended June 30, 1935, the Federal Food and Drug Administration made 2,011 seizures and 1,029 prosecutions. More than 60,000 samples were collected and examined, nearly 50,000 of which were foods. These samples represented products of more than 13,000 manufacturers, 3,000 being responsible for some form of violation.

—JKMS—

Motor Vehicle Madness.—Motor vehicle deaths in Kansas are increasing at a horrible rate. The leading type for the present year is collisions of motor vehicles with pedestrians with 139 deaths to December 1. Pedestrians killed by motor vehicles are either very young or very old. Non-collision deaths which usually lead are in second place with 128. Collisions of motor cars with railroad trains have nearly doubled over 1934. There appears to actually be an epidemic of driving into trains.

More than half the pedestrian deaths are not the fault of the motorist—often the driver does not know the accident has occurred until told by others. Recently, the driver of an auto was backing from the curb. A child four years of age ran from across the opposite side of the street, directly in the path of the backing automobile, and was knocked to the pavement; a skull fracture resulted in death. The driver could not see the child. Frequently, drivers are not to blame, but they suffer from shock and remorse, even though they are innocent.

Elderly persons, confused by lights at night, or with vision so impaired they cannot judge speed and distance, walk into the paths of oncoming cars and meet instant death from fractured skulls, or crushing injuries. A quick thud and life is gone, or if injuries are not so serious may linger for weeks and finally die from shock due to the accident.

Bicycles have always been a source of dread to the motorists. Imagine the feeling of horror experienced by a truck driver driving slowly through a small town and was hailed by the driver of a car following him. The truck driver stopped, climbed down from his seat and found the dead body of a 14-year old boy. The boy was riding a bicycle and "hooking" a ride by holding to the side of the truck. He lost control of the bike and fell to the pavement under the truck wheel.

Another "true" story: The road was gravel and very dusty. It was 7:30 in the evening when an amazing accident occurred. Two cars crashed at an intersection; a 19-year old girl was killed and one driver sustained broken ribs and a crushed leg. The amazing part of it all was that both drivers claimed to have stopped for the intersection. Two motionless cars, but the only other possible witness was unable to tell her version of it because she was instantly killed.

There are drivers who say that speed does not cause motor vehicle accidents. That may be true, but a combination of carelessness plus speed kills. While driving late at night at an estimated speed of 80 miles an hour, the young man at the wheel failed to see the curve sign and drove straight ahead—over the wing wall of a bridge. The car hurtled through the air for about 90 feet and landed upside down on the opposite side of the bank. Three persons were killed and one critically injured. The facts were reported by the sheriff.

WOMAN'S AUXILIARY

Members of the Brown County Medical Auxiliary held a meeting at the home of Mrs. Gordon Emery on November 22 in Hiawatha. The Auxiliary decided to hold its election of officers at the February meeting. Mrs. Emery read parts of the national president's letter and the invitation to meet with the Kansas-Nebraska Auxiliary was accepted. Members of the medical society attended an entertaining program.

The Montgomery County Medical Auxiliary met at the home of Mrs. G. C. Bates in Coffeyville on November 17. Mrs. O. W. Ellison, president, presided at the short business session, and the members were joined by the doctors at an informal program.

Members of the Sedgwick County Medical Auxiliary entertained with a luncheon in honor of the State Executive Board of the Medical Auxiliary on October 3 in Wichita. After a short busines meeting presided over by Mrs. Norris Rainey, president, Mrs. M. O. Nyberg, president of the state auxiliary, opened the program with a word of greeting to the members and guests. The November meeting was held on the fifth and Dr. and Mrs. E. C. Duncan, Fredonia, were guest speakers. Dr. Duncan talked on "What Wives of the Doctors Can Do for the Profession in a Legislative way." A short musical program followed the talks.

NEW BOOKS RECEIVED

DISEASES OF WOMEN by Dr. Harry Sturgeon Crossen and Dr. Robert James Crossen, respectively, professor emeritus clinical gynecology and instructor in clinical gynecology and obstetrics, Washington University, St. Louis. Published by the C. V. Mosby Company, at $10.00 per copy.

THE PARATHYROIDS by Dr. David H. Shelling, Johns Hopkins University and Hospital. Published by the C. V. Mosby Company at $5.00 per copy.

IMMUNOLOGY by Dr. N. P. Sherwood, professor of bacteriology, University of Kansas. Published by the C. V. Mosby Company at $6.00 per copy.

GYNECOLOGY by Dr. Brooke M. Anspach, professor of gynecology, Jefferson Medical College. Published by J. B. Lippincott Company at $9.00 per copy.

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THE 1935 YEARBOOK OF EYE EAR NOSE THROAT by Drs. Brown, Bothman, and Shambaugh. Published by the Yearbook Publishers at $3.00 per copy.

NEW PATHWAYS FOR CHILDREN WITH CEREBRAL PALSY by Gladys Gage Rogers and Leah C. Thomas. Published by the Macmillan Company at $2.50 per copy.

INFANT NUTRITION by Dr. Williams McKim Marriott, professor of pediatrics Washington University School of Medicine, St. Louis. Published by the C. V. Mosby Company at $4.50 per copy.

THE NATIONAL FORMULARY, Sixth Edition prepared by the Committee on National Formulary by authority of the American Pharmaceutical Association. Published by the American Pharmaceutical Association and printed and distributed by the Mack Printing Company.

SURGICAL INSTRUMENTS 1935 24th Edition. Catalogue of Surgical Instruments. Published by the Kny-Scheerer Corporation.

PHYSICAL DIAGNOSIS by Dr. W. P. Elmer, associate professor of clinical medicine, Washington University and Dr. W. D. Rose, late associate professor of medicine, University of Arkansas. Published by the C. V. Mosby Company at $8.00 per copy.

LABORATORY DIAGNOSIS by Dr. E. E. Osgood, assistant professor of medicine, University of Oregon. Published by the P. Blankiston's Son and Company.

PRESCRIPTION WRITING AND FORMULARY by Dr. Charles Solomon, assistant clinical professor of medicine. Published by the J. B. Lippincott Company at $4.00 per copy.

FOR AND AGAINST DOCTORS compiled by Robert Hutchinson and G. M. Wauchope. Published by the William Wood & Company at $2.00 per copy.

ANNOUNCEMENTS

The American Board of Ophthalmology will hold an examination in Kansas City, Missouri, May 11, 1936, and another examination will be given in New York, N. Y., during October 1936 at the time of the meeting of the American Academy of Ophthalmology. All applications and case reports must be filed at least sixty days before the date of examination. Information, syllabuses and application forms may be obtained from Dr. Thomas D. Allen, Assistant Secretary, 122 South Michigan Avenue, Chicago, Illinois.

The first international conference on fever therapy will be held in New York City, September, 1936. Further information concerning the conference may be obtained from the Secretary, Dr. William Bierman, 471 Park Avenue, New York City.

The American Association for the Study of Goiter again offers the Van Meter Prize Award of $300.00 and two honorable mentions for the best essays submitted on the goiter problem. Information concerning the length, style, type etc. of manuscripts may be obtained from Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania.

EXCHANGES

Debate on Socialized Medicine.—The National Broadcasting Company is providing the facilities of its red network for a chain broadcast on the question of socialized medicine on Tuesday afternoon, November 12. The negative side will be discussed by Dr. Morris Fishbein, editor of The Journal of the American Medical Association, and Dr. R. G. Leland, director of the Bureau of Medical Economics of the American Medical Association. Affirmative speakers will be William Trufont Foster, director of the Pollak Foundation, and Professor Bower Aly, University of Missouri, and editor of the debate handbook.

The last name on this debate program throws a strong ray of light upon several points regarding this debate handbook, a text which will be used by the many thousands of high school youngsters throughout the country who are to take part in debates on this subject this winter. Naturally we supposed that the handbook would be supervised by neutral interests and that the editor of it would maintain a neutral viewpoint on the question. Undoubtedly his affirmative leanings have had something to do with the copious amount of material in the handbook having to do with the affirmative side, and the dearth of material concerning the negative side. We cannot deny that Mr. Aly solicited material from probably all available sources on both sides, but how could he be fair in his analysis of material when he was preparing to uphold the socialization of medicine. Mr. Aly, we thought, was supervising the collection of material for a handbook that would give unbiased points for discussion for both sides. Could he be impersonal in his selection and editing of material when his personal feelings are definitely in favor of the affirmative side? We believe not, and we are distinctly disappointed to find this situation and wonder that the sponsors of the debates will permit such an occurrence. It smacks of an unfairness which we had hoped would be avoided in these debates, which will be participated in by youths all over our nation.—Indiana State Medical Journal.

—JKMS—

It cannot be denied that American physicians are themselves measurably responsible for their difficulties, that those who have been making a living have not been properly interested in those who have not. It cannot be denied that the workers in organized medicine have been slowed down and hampered in their work by a very large number of physicians who are so indifferent to their own welfare that they do not take the trouble to attend the meetings of their county medical societies, but, while being entirely uncooperative, do not hesitate to revile their officers for involving American medicine in an economic crisis.—Nathan B. Van Etten, M.D.

—JKMS—

The truth is that the doctors are not organized as well as the school teachers and what organization we do have is not given the united support that the educators give to theirs.

They may not get what they want the first time they try, but they do stick together and organize their sympathizers. They have their Parent-Teachers Association and thus gain the support of the parents of

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their pupils. That is no small influence in their behalf. They cultivate close relationship between the teacher and the pupils' parents. That makes a fine machine to assist the teachers in local, state, and national issues.—Colorado Medicine.

—JKMS—

Much has been written and spread by means of the printed sheet and by word of mouth about socialized medicine. By far the greatest part of it for lay consumption has been the product of social reformers because medical men have been reticent about publishing their own ideas to the world at large for various and sundry reasons. They have expressed themselves chiefly through the medium of their own scientific journals or at private forums. Much of the little that has been permitted to seep out to the laity has been couched in such exacting language and with such detail that it has been lacking both in appeal and in comprehension to all but a few of those whom it was intended to impress.

Recently our president, Dr. Clarence S. Capell, was invited to speak over the radio, and his subject was Socialized Medicine. His expression on this topic was so simple, so succinct and to the point, that it is herewith re-presented in the hope that it may further bear influence in determining the trend of thought on this all-important problem. It is ardently hoped that this conception may attract the attention of many sincere people, indirectly, through the readers of this journal.

Socialized Medicine.—A thorough study of socialized medicine has been made by the bureau of medical economics of the American Medical Association. They have issued many books and pamphlets on the subject. These are the main sources of my information and the authority for the following statements.

Socialized medicine is a proposed method of distributing and equalizing the economic burden of sickness. It occurs as some form of compulsory health insurance. It is a change from a personal responsibility to a social responsibility. It was introduced into Germany by Bismark in 1883 for political reasons. It was later started in England by Lloyd George also for political reasons. It has since appeared in different forms in France and other European countries. In none of these countries was it introduced by those most concerned—namely, the medical profession and the people themselves. There are those very influential in our government who advocate it and who believe that it will be instituted in America. So it behooves the medical profession to study it very carefully.

To a casual observer it would at first seem that socialized medicine could not help but be a splendid thing with its free and frequent medical examinations, chances for early diagnosis, and almost unlimited treatment.

But let us examine the reports on some of the different phases of the condition.

Cost of Medical Care. The subscribers, after they have paid in for some time and in response to the very human impulse "to get their money's worth," being energetically to demand expensive things such as frequent x-ray examinations, the latest physical therapy tretament, and the most highly advertised medicines.

The lay or political management with their constant checking of doctors and patients consider their work the most important and see to it that they are paid accordingly.

So socialized medicine has not reduced the cost of medical care.

The Medical Service. Next, let us consider the effect of socialized medicine on the doctor. When a patient becomes a subscriber there are changes. He no longer has a free choice of physicians. That fine complex relationship between doctor and patient is destroyed. It has become depersonalized. Their relations are now mechanical. The doctor is expected to practice medicine on mechanical mass methods. He has to examine so many for trivial things or those who are merely attempting to get their money's worth. He becomes suspicious of all. Human beings are not machines. Physicians are not mechanics. The doctor has to give many merely a "look and a bottle." The result is that many serious cases are missed. The doctor must become slipshod. He loses his self-respect, initiative, and scientific honor.

So socialized medicine is demoralizing to medical practice.

Morbidity. Now let us consider the amount of sickness or morbidity. It is a surprising fact that health insurance with its frequent free medical examinations causes a neurosis which results in real sickness. There is too engendered a destruction of the "will to get well." And because it is free, there is a continual dosing, a harmful overmedication.

So among those insured there is a definite increase in sickness.

Mortality. Vital Statistics verify what one would expect from this recital. There is no decrease but a definite increase in the death rate among those insured in comparison to those uninsured.

Recapitulation. Medical service declined and became ineffective, cost of medical care was not reduced. There was an increase in the amount of sickness and in the death rate. A rather severe indictment.

In conclusion I will say that doctors practicing as individuals are proud of the scientific advancement they have made. They are proud of the work they have done in the field of preventive medicine. They are proud of the charity work they have done and are willing to do. They are also proud of the idealistic spirit in which it was done. They have a code given to them 2,800 years by Hippocrates, a Greek doctor, which is a force among them today. In their organization they have and use means of punishing the flagrant wrong doers.

Organized medicine does not intend any compromise with the idea of compulsory health insurance. In Los Angeles, Detroit, and in Washington, D. C., on their own initiative, the doctors have instituted plans for a more systematic care of the under-privileged. In these plans there will be a close co-operation with the local charity organizations.

Finally America does not need state medicine. Without the intrusion of any outside influence the doctors have done much to alleviate suffering and have greatly extended the span of human life.—Jackson County Medical Journal.

—JKMS—

"Professor Winslow of Yale University is authority for the statement, that for health insurance alone the German laborer must set aside something more than eight per cent of his income (8.5% to be exact) and

that the employer for the same purpose adds five per cent more. Statistics in the United States claim that the average cost of medical care to the citizenry is something like three per cent of the income. Undoubtedly Germany's other ten and five-tenths per cent (10.5%) is used for paying salaries and buying red tape for the tremendous political bureaucracy needed to handle the German social insurance system."—Illinois Medical Journal.

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